

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: July 1, 2003, 10:42:27 ; Search time 37.7188 Seconds  
(without alignments)  
387.853 Million cell updates/sec

Title: US-09-910-082A-190  
Perfect score: 378  
Sequence: 1 MKLTCVIVAVLLTFACQLI.....PCSR IAYNCCTGSCRSKCG 71

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 671580 segs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : SPTREMBL\_21:\*  
1: sp\_archaea:\*  
2: sp\_bacteria:\*  
3: sp\_fungi:\*  
4: sp\_human:\*  
5: sp\_invertebrate:\*  
6: sp\_mammal:\*  
7: sp\_mhc:\*  
8: sp\_organelle:\*  
9: sp\_phage:\*  
10: sp\_plant:\*  
11: sp\_rodent:\*  
12: sp\_virus:\*  
13: sp\_vertebrate:\*  
14: sp\_unclassified:\*  
15: sp\_rvirus:\*  
16: sp\_bacteriaph:\*  
17: sp\_archaeap:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	339	89.7	66	5 Q9NCV1	Q9ncv1 conus stria
2	331	87.6	66	5 Q9N6N6	Q9n6n6 conus stria
3	328	86.8	66	5 Q9NCV3	Q9ncv3 conus stria
4	327	86.5	66	5 Q9NCV4	Q9ncv4 conus stria
5	324	85.7	66	5 Q9NCV2	Q9ncv2 conus stria
6	323	85.4	66	5 Q9NCV0	Q9ncv0 conus stria
7	312	82.5	66	5 Q9NCU1	Q9ncu1 conus stria
8	309	81.7	66	5 Q9N628	Q9n628 conus catus
9	309	81.7	66	5 Q9NCW3	Q9ncw3 conus catus
10	304	80.4	66	5 Q9N633	Q9n633 conus catus
11	304	80.4	66	5 Q9N625	Q9n625 conus catus
12	303	80.2	66	5 Q9NCW4	Q9ncw4 conus catus
13	302	79.9	66	5 Q9NCW1	Q9ncw1 conus catus
14	300	79.4	66	5 Q9NCV5	Q9ncv5 conus catus
15	299	79.1	66	5 Q9NCW6	Q9ncw6 conus catus
16	299	79.1	66	5 Q9NCW2	Q9ncw2 conus catus

17	298	78.8	66	5 Q9NCW5	Q9ncw5 conus catus
18	297	78.6	66	5 Q9NCV7	Q9ncv7 conus catus
19	296	78.3	66	5 Q9N6F7	Q9n6f7 conus catus
20	292	77.2	66	5 Q9NCV6	Q9ncv6 conus catus
21	291	77.0	66	5 Q9NCW0	Q9ncw0 conus catus
22	286	75.7	66	5 Q9N6F8	Q9n6f8 conus catus
23	281	74.3	66	5 Q9NCV9	Q9ncv9 conus catus
24	274	72.5	66	5 Q9NCV8	Q9ncv8 conus catus
25	228.5	60.4	72	5 Q9XZL5	Q9xzl5 conus stria
26	225.5	59.7	72	5 Q9XZL4	Q9xzl4 conus stria
27	223.5	59.1	67	5 Q9N646	Q9n646 conus stria
28	219.5	58.1	67	5 Q9NCU7	Q9ncu7 conus stria
29	204.5	54.1	67	5 Q9N604	Q9n604 conus stria
30	204.5	54.1	67	5 Q9NCU2	Q9ncu2 conus stria
31	203.5	53.8	67	5 Q9NCU5	Q9ncu5 conus stria
32	201.5	53.3	67	5 Q9NCU3	Q9ncu3 conus stria
33	197.5	52.2	72	5 Q9NCU8	Q9ncu8 conus stria
34	194.5	51.5	67	5 Q9NCU6	Q9ncu6 conus stria
35	192.5	50.9	67	5 Q9NCU4	Q9ncu4 conus stria
36	192.5	50.9	72	5 Q9NCU9	Q9ncu9 conus stria
37	175	46.3	81	5 Q9BP83	Q9bp83 conus arena
38	168.5	44.6	79	5 Q9BP78	Q9bp78 conus arena
39	162.5	43.0	71	5 Q9UA87	Q9ua87 conus abbre
40	159.5	42.2	71	5 Q9TVX4	Q9tvx4 conus abbre
41	156.5	41.4	70	5 Q9BP80	Q9bp80 conus arena
42	152.5	40.3	71	5 Q9UA90	Q9ua90 conus abbre
43	151.5	40.1	70	5 Q9BP82	Q9bp82 conus arena
44	150.5	39.8	71	5 Q9UA88	Q9ua88 conus abbre
45	150.5	39.8	76	5 Q9BP81	Q9bp81 conus arena

ALIGNMENTS

RESULT 1	ID	Q9NCV1	PRELIMINARY:	PRT:	66 AA.
AC	Q9NCV1;				
DT	01-OCT-2000 (TREMBlrel. 15, Created)				
DT	01-OCT-2000 (TREMBlrel. 15, Last sequence update)				
DT	01-JUN-2002 (TREMBlrel. 21, Last annotation update)				
DE	Four-loop conotoxin (Fragment).				
OS	Conus striatus (Striated cone).				
OC	Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;				
OC	Neogastropoda; Conoidea; Conidae; Conus.				
OX	NCBI_TaxID=6493;				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RC	STRAIN=CSTRH_1.6;				
RA	Duda T.F., Palumbi S.R.;				
RT	"Molecular evolution of four-loop conotoxin precursors from fish-eating Conus.";				
RL	Submitted (Aug-1999) to the EMBL/GenBank/DBJ databases.				
DR	EMBL: AF174245; AAF89909.1; -.				
DR	HSSP: P05484; IMVI.				
DR	InterPro: IPR004214; Conotoxin.				
DR	Pfam: PF02950; Conotoxin; 1.				
FT	NON_TER	1			
SQ	SEQUENCE	66 AA;	6976 MW;	29A992736137DA05 CRC64;	
Query Match					
Best Local Similarity 89.7%; Score 339; DB 5; Length 66;					
Matches 64; Conservativity 0; Mismatches 2; Indels 0; Gaps 0;					
QY	6	VVIVAVLLTFACQLITADDSRGTKHRAISDTKLSMSTRCKGTGKPSRIAYNCCTGSC	65		
Db	1	VVIVAVLLTFACQLITADDSRGTKHRAISDTKLSMSTRCKAAGKPSRIAYNCCTGSC	60		
QY	66	RSKGC	71		
Db	61	RSKGC	66		



Matches	61; Conservative	1; Mismatches	4; Indels	0; Gaps	0;
QY	6 VVIVAVLLLTACQLITADDSRGTOKHRALRSDTKLSMSTRCKGTGKPCSRIAYNCTGSC				65
Db	1 VVIVAVLLLTACQLITAEEDSRGTQKHRTLRSKTKLSMSTRCKKAAGKPCSRIAYNCTGSC				60
QY	66 RSGKCG	71			
Db	61 RSGKCG	66			

RESULT	6		
Q9NCV0			
ID	Q9NCV0	PRELIMINARY;	PRT; 66 AA.
AC	Q9NCV0;		
DT	01-OCT-2000 (TREMBLrel. 15, Created)		
DT	01-OCT-2000 (TREMBLrel. 15, Last sequence update)		
DT	01-JUN-2002 (TREMBLrel. 21, Last annotation update)		
DE	Four-loop conotoxin (Fragment).		
OS	Conus striatus (Striated cone).		
OC	Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;		
OC	Neogastropoda; Conoidea; Conidae; Conus.		
OX	NCBI_TaxID-6493;		
RN	[1]		
RP	SEQUENCE FROM N.A.		

RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-  
RT eating Conus.";  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174246; AAF89910.1; -.  
DR HSSP; P05484; 1MYI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1 1  
SQ SEQUENCE 66 AA; 6981 MW; 20CDC33D7CA7DA05 CRC64;

Query Match	85.48;	Score 323;	DB 5;	Length 66;
Best Local Similarity	92.48;	Pred. No. 2.7e-34;		
Matches 61; Conservative	2;	Mismatches 3;	Indels 0;	Gaps 0;

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QY 6 VVIVAVLLLTACQLITADDSRGTQKHRLALRSDPTKLSMSTRCKGTGKPCSRIAYNCCTGSC 65
    |||||||:|||||:||||| || |||||||
Db 1 VVIVAVLLLTACQLITAEDSRGTQKHRLALRSDPTELSMSTRCKAAGKSCSRIAYNCCTGSC 60
QY 66 RSGKCG 71
    |||||||
Db 61 RSGKCG 66
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RESULT 7			
Q9NCU1			
ID	Q9NCU1	PRELIMINARY;	PRT; 66 AA.
AC	Q9NCU1;		
DT	01-OCT-2000 (TREMBLrel. 15, Created)		
DT	01-OCT-2000 (TREMBLrel. 15, Last sequence update)		
DT	01-JUN-2002 (TREMBLrel. 21, Last annotation update)		
DE	Four-loop conotoxin (Fragment).		
OS	Conus striatus (Striated cone).		
OC	Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;		
OC	Neogastropoda; Conoidea; Conidae; Conus.		
OX	NCBI_TaxID=6493;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RC	STRAIN=CSTRH_R_1;		
RA	Duda T.F., Palumbi S.R.;		
RT	"Molecular evolution of four-loop conotoxin precursors from fish-eating Conus.";		
RL	Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.		

PFam; PF02950; Conotoxin; 1.

FT	NON_TER	1	1	
SQ	SEQUENCE	66 AA;	6951 MW;	0D9868C0A7A1A39F CRC64;
Query Match		82.5%;	Score 312;	DB 5; Length 66;
Best Local Similarity		89.4%;	Pred. No. 7.2e-33;	
Matches 59;	Conservative	2;	Mismatches 5;	Indels 0; Gaps 0;

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oy      6 VVIVAVLLLTACQLITADSRGTQKHALRSDTKLSMSTRCKGTGKPCRSRIAYNCCGTGSC   65
        ||| ||||| ||||| ||||| : || | : ||||| || ||||| ||||| |||||
db      1 VVIVAVLLLTACQLITADSRGTQKHRSLRSTTKVSKSTRCKAAGCSRSRIAYNCCGTGSC   60

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QY	66	RS	GK	CG	71
		11	11	11	11
Db	61	RS	GK	CG	66

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RESULT 8
Q9N628
ID Q9N628 PRELIMINARY; PRT; 66 AA.
AC Q9N628;
DT 01-OCT-2000 (TReMBLrel. 15, Created)
DT 01-OCT-2000 (TReMBLrel. 15, Last sequence update)
DT 01-JUN-2002 (TReMBLrel. 21, Last annotation update)
DE Four-loop conotoxin precursor (Fragment).
OS Conus catus.
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID-101291;

```

RP SEQUENCE FROM N.A.  
RC STRAIN-CCATH\_11I\_9, AND CCATH\_11I\_6;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-  
RT eating *Conus*.";  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174229; AAF89893.1; -.  
DR EMBL; AF174226; AAF89890.1; -.  
DR HSSP; P05484; 1MVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1 1  
SQ SEQUENCE 66 AA; 7057 MW; E7AA5E310968B7DA CRC64;

Query Match	81.78;	Score 309;	DB 5;	Length 66;	.	.
Best Local Similarity	87.98;	Pred. No. 1.8e-32;				
Matches 58;	Conservative 3;	Mismatches 5;	Indels 0;	Gaps 0;		

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QY      6 VVIVAVLLLTACQLITADDSRGTOKHRALRSDTKLSMSTRCKGTGKPCRSRIAYNCCTGSC   65
        |||||||
Db      1 VVIVAVLLLTACQLITADDSRGTOKHRALRSDTKLSMSTRCKSTGASCARTSYDCCCTGSC   60
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QY	66	RSGKCG	71
		111:11	
Db	61	RSGRCG	66

RESULT 9		
Q9NCW3		
ID	Q9NCW3	PRELIMINARY; PRT; 66 AA.
AC	Q9NCW3;	
DT	01-OCT-2000 (TREMBLrel. 15, Created)	
DT	01-OCT-2000 (TREMBLrel. 15, Last sequence update)	
DT	01-JUN-2002 (TREMBLrel. 21, Last annotation update)	
DE	Four-loop conotoxin (Fragment).	
OS	Conus catus.	
OC	Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;	
OC	Neogastropoda; Conoidea; Conidae; Conus.	

RP SEQUENCE FROM N.A.  
RC STRAIN-CCATH\_11\_7;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-

```
RT eating Conus."
RL Submitted (Aug-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174220; AAF89884.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1
SQ SEQUENCE 66 AA; 7054 MW; E9FE5E310968A1AC CRC64;

Query Match
Best Local Similarity 81.7%; Score 309; DB 5; Length 66;
Matches 58; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 6 VVIVAVLLLTACQLITADDSRGTQKHRLRSDTKLSMSTRCKGTGKPCSR IAYNCCTGSC 65
    |||:|||||
Db 1 VVIVAVLLLTACQLITADDSRGTQKHRLRSDTKLSMSTRCKGKASCRRTSYDCCTGSC 60

QY 66 RSGKCG 71
    |||:||
Db 61 RSGRCG 66

RESULT 10
Q9N633 PRELIMINARY; PRT; 66 AA.
ID Q9N633
AC Q9N633;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-JUN-2002 (Tremblrel. 21, Last annotation update)
DE Four-loop conotoxin precursor (Fragment).
OS Conus catus.
OC Neogastropoda; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxId=101291;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CCATH_11_1, AND CCATH_11_2;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from fish-
RT eating Conus."
RL Submitted (Aug-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174219; AAF89883.1; -.
DR EMBL; AF174214; AAF89878.1; -.
DR EMBL; AF174215; AAF89879.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1
SQ SEQUENCE 66 AA; 7053 MW; E445338A6968A1AC CRC64;

Query Match
Best Local Similarity 80.4%; Score 304; DB 5; Length 66;
Matches 57; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 6 VVIVAVLLLTACQLITADDSRGTQKHRLRSDTKLSMSTRCKGTGKPCSR IAYNCCTGSC 65
    |||:|||||
Db 1 VVIVAVLLLTACQLITANDSRGTQKHRLRSDTKLSMSTRCKGKASCRRTSYDCCTGSC 60

QY 66 RSGKCG 71
    |||:||
Db 61 RSGRCG 66

RESULT 11
Q9N625 PRELIMINARY; PRT; 66 AA.
ID Q9N625
AC Q9N625;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-JUN-2002 (Tremblrel. 21, Last annotation update)
DE Four-loop conotoxin precursor (Fragment).
OS Conus catus.
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
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OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxId=101291;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=VARIOUS STRAINS;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from fish-
RT eating Conus."
RL Submitted (Aug-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174228; AAF89892.1; -.
DR EMBL; AF174221; AAF89885.1; -.
DR EMBL; AF174222; AAF89886.1; -.
DR EMBL; AF174224; AAF89888.1; -.
DR EMBL; AF174225; AAF89889.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1
SQ SEQUENCE 66 AA; 7056 MW; EA11338A6968B7DA CRC64;

Query Match
Best Local Similarity 80.4%; Score 304; DB 5; Length 66;
Matches 57; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 6 VVIVAVLLLTACQLITADDSRGTQKHRLRSDTKLSMSTRCKGTGKPCSR IAYNCCTGSC 65
    |||:|||||
Db 1 VVIVAVLLLTACQLITANDSRGTQKHRLRSDTKLSMSTRCKSTGASCRRTSYDCCTGSC 60

QY 66 RSGKCG 71
    |||:||
Db 61 RSGRCG 66

RESULT 12
Q9NCW4 PRELIMINARY; PRT; 66 AA.
ID Q9NCW4
AC Q9NCW4;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-JUN-2002 (Tremblrel. 21, Last annotation update)
DE Four-loop conotoxin (Fragment).
OS Conus catus.
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxId=101291;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CCATH_11_5;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from fish-
RT eating Conus."
RL Submitted (Aug-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174218; AAF89882.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1
SQ SEQUENCE 66 AA; 6995 MW; E445338A6AA7A1AC CRC64;

Query Match
Best Local Similarity 80.2%; Score 303; DB 5; Length 66;
Matches 57; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

QY 6 VVIVAVLLLTACQLITADDSRGTQKHRLRSDTKLSMSTRCKGTGKPCSR IAYNCCTGSC 65
    |||:|||||
Db 1 VVIVAVLLLTACQLITANDSRGTQKHRLRSDTKLSMSTRCKGKASCRRTSYGCCTGSC 60

QY 66 RSGKCG 71
    |||:||
Db 61 RSGRCG 66

RESULT 13
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Q9NCW1  
ID Q9NCW1 PRELIMINARY; PRT; 66 AA.  
AC Q9NCW1;  
DT 01-OCT-2000 (TREMBLrel. 15, Created)  
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
DT 01-JUN-2002 (TREMBLrel. 21, Last annotation update)  
DE Four-loop conotoxin (Fragment).  
OS Conus catus.  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=CCATH\_11\_7;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-  
eating Conus.";  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174227; AAF89891.1; -.  
DR HSSP; P05484; IMVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1  
SQ SEQUENCE 66 AA; 7066 MW; EA11338A6968B415 CRC64;  
  
Query Match 79.9%; Score 302; DB 5; Length 66;  
Best Local Similarity 86.4%; Pred. No. 1.4e-31;  
Matches 57; Conservative 3; Mismatches 6; Indels 0; Gaps 0;  
  
QY 6 VVIVAVLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRRIAYNCTGSC 65  
Db 1 VVIVAVLLTACQLITANDSRGTQKHRLRSDTKLSMSTRCKSTGASCRTYPDCTGSC 60  
QY 66 RSGKCG 71  
Db 61 RSGRCG 66  
  
RESULT 14  
Q9NCV5  
ID Q9NCV5 PRELIMINARY; PRT; 66 AA.  
AC Q9NCV5;  
DT 01-OCT-2000 (TREMBLrel. 15, Created)  
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
DT 01-JUN-2002 (TREMBLrel. 21, Last annotation update)  
DE Four-loop conotoxin (Fragment).  
OS Conus catus.  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=CCATH\_R\_4;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-  
eating Conus.";  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174238; AAF89902.1; -.  
DR HSSP; P05484; IMVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1  
SQ SEQUENCE 66 AA; 7081 MW; 66EA898A6968B31B CRC64;

Query Match 79.4%; Score 300; DB 5; Length 66;  
Best Local Similarity 84.8%; Pred. No. 2.6e-31;  
Matches 56; Conservative 5; Mismatches 5; Indels 0; Gaps 0;

QY 6 VVIVAVLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRRIAYNCTGSC 65  
Db 1 VVIVAVLLTACQLITANDSRGTQKHRLRSDTKLSMSTRCKGASCRTSYDCTGSC 60  
QY 66 RSGKCG 71

Db 61 RSGRCG 66  
  
RESULT 15  
Q9NCW6  
ID Q9NCW6 PRELIMINARY; PRT; 66 AA.  
AC Q9NCW6;  
DT 01-OCT-2000 (TREMBLrel. 15, Created)  
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
DT 01-JUN-2002 (TREMBLrel. 21, Last annotation update)  
DE Four-loop conotoxin (Fragment).  
OS Conus catus.  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=CCATH\_11\_3;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-  
eating Conus.";  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174216; AAF89880.1; -.  
DR HSSP; P05484; IMVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1  
SQ SEQUENCE 66 AA; 7023 MW; E445339B6968B0AC CRC64;

Query Match 79.1%; Score 299; DB 5; Length 66;  
Best Local Similarity 84.8%; Pred. No. 3.4e-31;  
Matches 56; Conservative 4; Mismatches 6; Indels 0; Gaps 0;

QY 6 VVIVAVLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRRIAYNCTGSC 65  
Db 1 VVIVAVLLTACQLITANDSRGQKHRLRSDTKLSMSTRCKGKASCRTSYDCTGSC 60  
QY 66 RSGKCG 71  
Db 61 RSGRCG 66

Search completed: July 1, 2003, 10:52:16  
Job time : 38.7188 secs

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OM protein - protein search, using sw model

Run on: July 1, 2003, 10:41:52 ; Search time 73.2188 Seconds  
(without alignments)  
129.213 Million cell updates/sec

Title: US-09-910-082A-190

Perfect score: 378  
Sequence: 1 MKLTCVIVAVLLLTACQLI.....PCSRIAVNCCTGSCRSKGC 71

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :

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22:	/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2001.DAT:*
23:	/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	378	100.0	71	23	ABB96657	Omega-conopeptide
2	377	99.7	71	23	ABB96634	Omega-conopeptide
3	376	99.5	71	23	ABB96629	Omega-conopeptide
4	359	95.0	71	23	ABB96680	Omega-conopeptide
5	356	94.2	71	21	AAV87541	Conotoxin peptide
6	352	93.1	71	23	ABB96607	Omega-conopeptide
7	350	92.6	71	23	ABB96661	Omega-conopeptide
8	349	92.3	71	23	ABB96609	Omega-conopeptide
9	327	86.5	71	23	ABB96632	Omega-conopeptide
10	324	85.7	71	14	AAK38795	Conotoxin preprope

11	324	85.7	71	23	ABB96662	Omega-conopeptide
12	319	84.4	71	23	ABB96659	Omega-conopeptide
13	314	83.1	73	23	ABB96631	Omega-conopeptide
14	311	82.3	71	23	ABB96624	Omega-conopeptide
15	306	81.0	73	23	ABB96675	Omega-conopeptide
16	305	80.7	71	23	ABB96614	Omega-conopeptide
17	304	80.4	71	23	ABB96697	Omega-conopeptide
18	304	80.4	73	21	AAV43717	Amino acid sequenc
19	303	80.2	73	23	ABB96626	Omega-conopeptide
20	301	79.6	71	23	ABB96683	Omega-conopeptide
21	300	79.4	71	23	ABB96692	Omega-conopeptide
22	296	78.3	71	23	ABB96616	Omega-conopeptide
23	296	78.3	71	23	ABB96690	Omega-conopeptide
24	271.5	71.8	75	23	ABB96653	Omega-conopeptide
25	269.5	71.3	74	23	ABB96641	Omega-conopeptide
26	268.5	71.0	72	23	ABB96671	Omega-conopeptide
27	268.5	71.0	75	23	ABB96646	Omega-conopeptide
28	259.5	68.7	73	14	AAK38796	Conotoxin preprope
29	259.5	68.7	73	23	ABB96640	Omega-conopeptide
30	259.5	68.7	73	23	ABB96642	Omega-conopeptide
31	251.5	66.5	72	23	ABB96681	Omega-conopeptide
32	248.5	65.7	72	23	ABB96633	Omega-conopeptide
33	248.5	65.7	72	23	ABB96658	Omega-conopeptide
34	247.5	65.5	76	23	ABB96689	Omega-conopeptide
35	245.5	64.9	73	23	ABB96687	Omega-conopeptide
36	241.5	63.9	73	23	ABB96688	Omega-conopeptide
37	239	63.2	71	23	ABB96667	Omega-conopeptide
38	238.5	63.1	73	23	ABB96645	Omega-conopeptide
39	237.5	62.8	74	23	ABB96654	Omega-conopeptide
40	237.5	62.8	76	23	ABB96612	Omega-conopeptide
41	235.5	62.3	72	23	ABB96647	Omega-conopeptide
42	233.5	61.8	72	23	ABB96610	Omega-conopeptide
43	233.5	61.8	77	23	ABB96608	Omega-conopeptide
44	232	61.4	72	23	ABB96677	Omega-conopeptide
45	232	61.4	76	23	ABB96595	Omega-conopeptide

ALIGNMENTS

RESULT 1	ABB96657	
ID	ABB96657	standard; Peptide; 71 AA.
AC	ABB96657;	
XX		
DT	12-JUL-2002	(first entry)
XX		
DE	Omega-conopeptide M6.1 propeptide.	
XX		
KW	Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;	
KW	neuroprotective; cerebroprotective; cardiovascular; antinflammatory;	
KW	antimigraine; antidiabetic; tranquilliser; vulnerary; antipsychotic;	
KW	anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;	
KW	neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;	
KW	stroke; cerebrovascular accident; brain trauma; spinal chord trauma;	
KW	drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;	
KW	migraine; inflammation; cardiovascular disorder; psychiatric disorder;	
KW	psychosis; anxiety; schizophrenia.	
XX		
OS	Conus magus.	
XX		
PN	WO200207675-A2.	
XX		
PD	31-JAN-2002.	
XX		
PF	23-JUL-2001; 2001WO-US23041.	
XX		
PR	21-JUL-2000; 2000US-219616P.	
PR	05-FEB-2001; 2001US-265888P.	
XX		
PA	(UTAH ) UNIV UTAH RES FOUND.	
PA	(COGN-) COGNETIX INC.	

XX Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX WPI: 2002-257318/30.  
DR N-PSDB; ABL98916.  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(c); Page 52; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquilliser, vulnery, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain.e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
SQ Sequence 71 AA;  
OY 1 MKLTCVIVAVLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRVAYNC 60  
DB 1 MKLTCVIVAVLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRVAYNC 60  
OY 61 CTGSCRSGBKCG 71  
DB 61 CTGSCRSGBKCG 71  
RESULT 2  
ABB96634  
ID ABB96634 standard; Peptide: 71 AA.  
XX  
AC ABB96634;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Cn6.7 propeptide.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquilliser; vulnery; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus consors.  
XX  
PN WO200207675-A2.  
XX  
PD 31-JAN-2002.

XX 23-JUL-2001; 2001WO-US23041.  
XX  
XX 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX  
XX (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX  
DR WPI: 2002-257318/30.  
DR N-PSDB; ABL98893.  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(c); Page 40; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquilliser, vulnery, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain.e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
SQ Sequence 71 AA;  
OY 1 MKLTCVIVAVLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRVAYNC 60  
DB 1 MKLTCVIVAVLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRVAYNC 60  
OY 61 CTGSCRSGBKCG 71  
DB 61 CTGSCRSGBKCG 71  
RESULT 3  
ABB96629  
ID ABB96629 standard; Peptide: 71 AA.  
XX  
AC ABB96629;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Cn6.2 propeptide.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquilliser; vulnery; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;



KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus consors.  
XX  
PN WO200207675-A2.  
XX  
PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.  
XX  
PR 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX  
XX (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX  
DR WPI: 2002-257318/30.  
DR N-PSDB; ABL98888.  
XX  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(c); Page 38; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
XX  
SQ Sequence 71 AA;  
Query Match 99.5%; Score 376; DB 23; Length 71;  
Best Local Similarity 98.6%; Pred. No. 7e-33;  
Matches 70; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
OY 1 MKLTCVVIYAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSR IAYNC 60  
DB 1 MKLTCVVIYAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSR IAYNC 60  
OY 61 CTGSCRSRSGKCG 71  
DB 61 CTGSCRSRSGKCG 71  
RESULT 4  
ABB96680  
ID ABB96680 standard; Peptide; 71 AA.  
XX  
AC ABB96680;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide S6.3 propeptide.

XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus striatus.  
XX  
PN WO200207675-A2.  
XX  
PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.  
XX  
PR 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX  
XX (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX  
DR WPI: 2002-257318/30.  
DR N-PSDB; ABL98939.  
XX  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(c); Page 62; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
XX  
SQ Sequence 71 AA;  
Query Match 95.0%; Score 359; DB 23; Length 71;  
Best Local Similarity 95.8%; Pred. No. 4.5e-31;  
Matches 68; Conservative 0; Mismatches 3; Indels 0; Gaps 0;  
OY 1 MKLTCVVIYAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSR IAYNC 60  
DB 1 MKLTCVVIYAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKAAGKSCSR IAYNC 60  
OY 61 CTGSCRSRSGKCG 71  
DB 61 CTGSCRSRSGKCG 71  
RESULT 5

[illegible]

XX	AD	ABB96607 standard; peptide; 71 AA.
XX	AC	ABB96607;
XX	DT	12-JUL-2002 (first entry)
XX	DE	Omega-conopeptide Ay6.1 propeptide.
XX	KW	Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;
KW	KW	neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;
KW	KW	antimigraine; antidiabetic; tranquiliser; vulnery; antipsychotic;
KW	KW	anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;
KW	KW	neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;
KW	KW	stroke; cerebrovascular accident; brain trauma; spinal chord trauma;
KW	KW	drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;
KW	KW	migraine; inflammation; cardiovascular disorder; psychiatric disorder;
KW	KW	psychosis; anxiety; schizophrenia.
XX	OS	Conus aurisiliacus.
XX	PN	WO200207675-A2.
XX	PD	31-JAN-2002.
XX	PF	23-JUL-2001; 2001WO-US23041.
XX	PR	21-JUL-2000; 2000US-219616P.
XX	PR	05-FEB-2001; 2001US-265888P.
XX	PA	(UTAH ) UNIV UTAH RES FOUND.
XX	PI	(COGN-) COGNETIX INC.
XX	PI	Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;
XX	PI	Jacobsen R, Jones RM, Cartier GE;
XX	DR	WPI; 2002-257318/30.
XX	DR	N-PSDB; ABL98867.
PT	PT	New omega-conopeptides useful for treating disorders associated with
PT	PT	voltage gated ion channels e.g. pain, inflammation, neurological or
PT	PT	cardiovascular disorders -
XX	PS	Claim 1(c); Page 28; 195pp; English.
XX	CC	The invention relates to isolated omega-conopeptides, nucleic acid
XX	CC	sequences encoding them, and propeptide sequences. The activity of
XX	CC	the peptides of the invention may be described as, analgesic,
XX	CC	anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,
XX	CC	cardiovascular, antiinflammatory, antimigraine, antidiabetic,
XX	CC	tranquilliser, vulnery, antipsychotic, anxiolytic and neuroleptic.
XX	CC	Peptides of the invention act by modulating the activity of voltage gated
XX	CC	ion channels. They may be used for treating or preventing disorders
XX	CC	associated with voltage gated ion channels such as neurological
XX	CC	disorders, e.g. seizure (associated with epilepsy), neurotoxic injury
XX	CC	associated with conditions of hypoxia, anoxia, ischaemia, stroke,
XX	CC	cerebrovascular accident, brain or spinal chord trauma, drowning,
XX	CC	suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.
XX	CC	migraine; inflammation or cardiovascular disorders. They may also be used
XX	CC	for treating psychiatric disorders e.g. psychosis, anxiety or
XX	CC	schizophrenia. The analgesic agents of the invention show diminished side
XX	CC	effects and toxicity, and are non-addictive. The sequences given in
XX	CC	records ABB96595-ABB96697 represent omega-conopeptide propeptide
XX	CC	sequences.
SO	SO	Sequence 71 AA;
QY	QY	Query Match 93.1%; Score 352; DB 23; Length 71;
QY	QY	Best Local Similarity 93.0%; Pred. No. 2.5e-30;
QY	QY	Matches 66; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
DB	DB	1 MKLTCVIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRIVANC 60
DB	DB	1 MKLTCVIVAVLLLTACQLITADDSRGTKHRLRSLSATKLSMSTRCKGKGPCSRISYNC 60

OY 61 CTGSCRSKCG 71  
Db 61 CTGSCRSKCG 71

RESULT 7  
ABB96661  
ID ABB96661 standard; Peptide; 71 AA.  
XX  
AC ABB96661;  
XX  
DT 12-JUL-2002 (first entry)

DE Omega-conopeptide Mn6.1 propeptide.

KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.

XX Conus monachus.

OS  
XX WO200207675-A2.

PN  
XX 31-JAN-2002.

PD  
XX 23-JUL-2001; 2001WO-US23041.

PF  
XX 21-JUL-2000; 2000US-219616P.

PR  
XX 05-FEB-2001; 2001US-265888P.

XX  
PA (UTAH ) UNIV UTAH RES FOUND.

XX  
PI (COGN-) COGNETIX INC.

PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;

PI Jacobsen R, Jones RM, Cartier GE;

XX WPI; 2002-257318/30.

DR N-PSDB; ABL98920.

XX  
PS Claim 1(c); Page 53; 195pp; English.

CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.

XX  
SQ Sequence 71 AA;

Query Match 92.6%; Score 350; DB 23; Length 71;  
Best Local Similarity 94.4%; Pred. No. 4.1e-30;  
Matches 67; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 MKLTCVIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRIRAYNC 60  
Db 1 MKLTSVIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRIRAYNC 60  
OY 61 CTGSCRSKCG 71  
XX  
AC 61 CTGSCRSKCG 71  
XX  
DT 12-JUL-2002 (first entry)

DE Omega-conopeptide Ay6.3 propeptide.

KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.

XX Conus auristacus.

OS  
XX WO200207675-A2.

PN  
XX 31-JAN-2002.

PD  
XX 23-JUL-2001; 2001WO-US23041.

PF  
XX 21-JUL-2000; 2000US-219616P.

PR  
XX 05-FEB-2001; 2001US-265888P.

XX  
PA (UTAH ) UNIV UTAH RES FOUND.

XX  
PI (COGN-) COGNETIX INC.

PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;

PI Jacobsen R, Jones RM, Cartier GE;

XX WPI; 2002-257318/30.

DR N-PSDB; ABL98869.

XX  
PS Claim 1(c); Page 29; 195pp; English.

CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.





CC from C. geographus. These conotoxins target presynaptic calcium  
CC channels and have largely overlapping specificities for different  
CC calcium targets in neuronal tissue preparations. These peptides  
CC form a four loop folded toxin molecule with a specific arrangement of  
CC cysteines referred to as the omega pattern. The cysteine framework  
CC of these two peptides differs only in the exact amino acid spacing  
CC of the two carboxy terminal inter-Cys domains. Beyond the similarity  
CC of the framework the two peptides are remarkably divergent. Only nine  
CC of the 21 non-Cys amino acids of the omega-GVIA are conserved in the  
CC omega-MVIIA. MVIIB and GVIA template domains are each 45 amino acids  
CC in length. They also show a >90% conservation of amino acid sequence  
CC with only 4 positions of amino acid non-identity. These two sequences  
CC illustrate the existence of two highly conserved template domains  
CC associated with two structurally dissimilar toxins.

XX SQ Sequence 71 AA;

Query Match 85.7%; Score 324; DB 14; Length 71;  
Best Local Similarity 85.9%; Pred. No. 2.4e-27;  
Matches 61; Conservative 2; Mismatches 8; Indels 0; Gaps 0;

OY 1 MKLTCVIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRIRAYNC 60  
Db 1 MKLTCVIVAVVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGKGASCHRTSYDC 60

OY 61 CTGSCRSKCG 71  
Db 61 CTGSCNRGDCG 71

RESULT 11  
ABB96662  
ID ABB96662 standard; Peptide: 71 AA.

XX AC ABB96662;

XX DT 12-JUL-2002 (first entry)

XX DE Omega-conopeptide Mn6.2 propeptide.

KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.

XX OS Conus monachus.

XX PN WO200207675-A2.

XX PD 31-JAN-2002.

XX PF 23-JUL-2001; 2001WO-US23041.

XX PR 21-JUL-2000; 2000US-219616P.

XX PR 05-FEB-2001; 2001US-265888P.

XX PA (UTAH ) UNIV UTAH RES FOUND.

XX PA (COGN-) COGNETIX INC.

XX PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;

XX PI Jacobsen R, Jones RM, Cartier GE;

XX DR WPI; 2002-257318/30.

XX DR N-PSDB; ABL98921.

PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -

XX PS Claim 1(c); Page 54; 195pp; English.

XX The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.

XX SQ Sequence 71 AA;

Query Match 85.7%; Score 324; DB 23; Length 71;  
Best Local Similarity 87.3%; Pred. No. 2.4e-27;  
Matches 62; Conservative 0; Mismatches 9; Indels 0; Gaps 0;

OY 1 MKLTCVIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRIRAYNC 60  
Db 1 MKLTSVIVAVVLLLTACQLITADDSRGTKHRLRSDTNLSMSTRCKGKGSSCSRTMYNC 60

OY 61 CTGSCRSKCG 71  
Db 61 CTGSCNRGDCG 71

RESULT 12  
ABB96659  
ID ABB96659 standard; Peptide: 71 AA.

XX AC ABB96659;

XX DT 12-JUL-2002 (first entry)

XX DE Omega-conopeptide w-MVIIB propeptide.

KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.

XX OS Conus magus.

XX PN WO200207675-A2.

XX PD 31-JAN-2002.

XX PF 23-JUL-2001; 2001WO-US23041.

XX PR 21-JUL-2000; 2000US-219616P.

XX PR 05-FEB-2001; 2001US-265888P.

XX PA (UTAH ) UNIV UTAH RES FOUND.

XX PA (COGN-) COGNETIX INC.

XX PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;



PI Jacobsen R, Jones RM, Cartier GE;  
XX  
XX WPI; 2002-257318/30.  
DR N-PSDB; ABL98918.  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
XX Claim 1(c); Page 52; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
SQ Sequence 71 AA;  
Query Match 84.4%; Score 319; DB 23; Length 71;  
Best Local Similarity 85.9%; Pred. No. 8.2e-27;  
Matches 61; Conservative 2; Mismatches 8; Indels 0; Gaps 0;  
QY 1 MKLTCVVIIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRITAYNC 60  
Db 1 MKLTCVVIIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGKGASCHRTSYDC 60  
QY 61 CTGSCRSRKGCG 71  
Db 61 CTGSCNRGKFG 71  
Db  
RESULT 13  
ABB96631  
ID ABB96631 standard; Peptide; 73 AA.  
XX  
AC ABB96631;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Cn6.4 propeptide.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus consors.  
XX  
PN WO200207675-A2.  
XX  
PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.

XX  
PR 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX  
XX (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX  
XX WPI; 2002-257318/30.  
DR N-PSDB; ABL98890.  
XX  
XX New omega-conopeptides useful for treating disorders associated with  
XX voltage gated ion channels e.g. pain, inflammation, neurological or  
XX cardiovascular disorders -  
XX  
XX Claim 1(c); Page 39; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
SQ Sequence 73 AA;  
Query Match 83.1%; Score 314; DB 23; Length 73;  
Best Local Similarity 82.2%; Pred. No. 2.9e-26;  
Matches 60; Conservative 5; Mismatches 6; Indels 2; Gaps 1;  
QY 1 MKLTCVVIIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRITAYNC 60  
Db 1 MKLTCVVIIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGKGASCTRLMYDC 60  
QY 61 CTGSCRS--GKCG 71  
Db 61 CHGSCSSSRKGRCG 73  
Db  
RESULT 14  
ABB96624  
ID ABB96624 standard; Peptide; 71 AA.  
XX  
AC ABB96624;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Cr6.1 propeptide.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.

XX	OS	Conus circumcissus.
XX	PN	WO200207675-A2.
XX	PD	31-JAN-2002.
XX	PF	23-JUL-2001; 2001WO-US23041.
XX	PR	21-JUL-2000; 2000US-219616P.
XX	PR	05-FEB-2001; 2001US-265888P.
XX	PA	(UTAH ) UNIV UTAH RES FOUND.
XX	PA	(COGN-) COGNETIX INC.
XX	PI	Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;
XX	PI	Jacobsen R, Jones RM, Cartier GE;
XX	XX	
XX	DR	WPI; 2002-257318/30.
XX	DR	N-PSDB; ABL98883.
PT	PT	New omega-conopeptides useful for treating disorders associated with
PT	PT	voltage gated ion channels e.g. pain, inflammation, neurological or
PT	PT	cardiovascular disorders -
XX	PS	Claim 1(c); Page 36; 195pp; English.
XX	CC	
CC	CC	The invention relates to isolated omega-conopeptides, nucleic acid
CC	CC	sequences encoding them, and propeptide sequences. The activity of
CC	CC	the peptides of the invention may be described as, analgesic,
CC	CC	anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,
CC	CC	cardiovascular, antiinflammatory, antimigraine, antidiabetic,
CC	CC	tranquilliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.
CC	CC	Peptides of the invention act by modulating the activity of voltage gated
CC	CC	ion channels. They may be used for treating or preventing disorders
CC	CC	associated with voltage gated ion channels such as neurological
CC	CC	disorders, e.g. seizure (associated with epilepsy), neurotoxic injury
CC	CC	associated with conditions of hypoxia, anoxia, ischaemia, stroke,
CC	CC	cerebrovascular accident, brain or spinal chord trauma, drowning,
CC	CC	suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.
CC	CC	migraine; inflammation or cardiovascular disorders. They may also be used
CC	CC	for treating psychiatric disorders e.g. psychosis, anxiety or
CC	CC	schizophrenia. The analgesic agents of the invention show diminished side
CC	CC	effects and toxicity, and are non-addictive. The sequences given in
CC	CC	records ABB96595-ABB96697 represent omega-conopeptide propeptide
CC	CC	sequences.
XX	SQ	Sequence 71 AA;
XX		
	Query Match	82.3%; Score 311; DB-23; Length 71;
	Best Local Similarity	80.3%; Pred. No. 5.8e-26;
	Matches 57; Conservative	5; Mismatches 9; Indels 0; Gaps 0
OY	1 MKLTCVIVAVALLTACQLTTADDSRGTQKHRLRSDTKLSMSTRCKGTGKPCSR IAYNC 60	
Db	1 MKLTCVIVAVALLTTCQLTTADDSRGTQEHRLRSDTKLPMSTRCKGKGASCRTMYNC 60	
OY	61 CTGSCRSRSGKCG 71	
Db	61 CSGSCSNGRCG 71	
XX	RESULT 15	
XX	ABB96675	
XX	ID ABB96675 standard; Peptide; 73 AA.	
XX	AC ABB96675;	
XX	DT 12-JUL-2002 (first entry)	
XX	DE Omega-conopeptide Sm6.1 propeptide.	
XX	XX Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;	

KW		neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;
KW		antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;
KW		anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;
KW		neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;
KW		stroke; cerebrovascular accident; brain trauma; spinal chord trauma;
KW		drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;
KW		migraine; inflammation; cardiovascular disorder; psychiatric disorder;
KW		psychosis; anxiety; schizophrenia.
OS		
XX		Conus stercusmuscarum.
XX		WO200207675-A2.
XX		
PD		31-JAN-2002.
XX		
PF		23-JUL-2001; 2001WO-US23041.
XX		
PR		21-JUL-2000; 2000US-219616P.
XX		05-FEB-2001; 2001US-265888P.
XX		
PA		(UTAH ) UNIV UTAH RES FOUND.
XX		(COGN-) COGNETIX INC.
PI		Oliviera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;
PI		Jacobsen R, Jones RM, Cartier GE;
XX		
DR		WPI; 2002-257318/30.
N-PSDB;		ABL98934.
PT		New omega-conopeptides useful for treating disorders associated with
PT		voltage gated ion channels e.g. pain, inflammation, neurological or
PT		cardiovascular disorders -
XX		
PS		Claim 1(c); Page 60; 195pp; English.
XX		
CC		The invention relates to isolated omega-conopeptides, nucleic acid
CC		sequences encoding them, and propeptide sequences. The activity of
CC		the peptides of the invention may be described as, analgesic,
CC		anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,
CC		cardiovascular, antiinflammatory, antimigraine, antidiabetic,
CC		tranquilliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.
CC		Peptides of the invention act by modulating the activity of voltage gated
CC		ion channels. They may be used for treating or preventing disorders
CC		associated with voltage gated ion channels such as neurological
CC		disorders, e.g. seizure (associated with epilepsy), neurotoxic injury
CC		associated with conditions of hypoxia, anoxia, ischaemia, stroke,
CC		cerebrovascular accident, brain or spinal chord trauma, drowning,
CC		suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.
CC		migraine; inflammation or cardiovascular disorders. They may also be used
CC		for treating psychiatric disorders e.g. psychosis, anxiety or
CC		schizophrenia. The analgesic agents of the invention show diminished side
CC		effects and toxicity, and are non-addictive. The sequences given in
CC		records ABB96595-ABB96697 represent omega-conopeptide propeptide
CC		sequences.
CC		
XX		
SQ		Sequence 73 AA:
	Query Match	81.0%; Score 306; DB 23; Length 73;
	Best Local Similarity	80.8%; Pred. No. 2.1e-25;
	Matches 59; Conservative	5; Mismatches 7; Indels 2; Gaps 1;
OY	1 MKLTCVIVAVLLLTACQLITADDSRGTOKHRALRSDTKLSMSTRCKGTGKPCSRIRAYNC 60	
Db	1 MKLTCVIVAVVLLLTACQLITADDSRGTOKHRALRSKTKLSMSTRCKSKGAKCSRLMYDC 60	
OY	61 CTGSCR--SGKCG 71	
	:     : :	
Db	61 CSGSCSGYTGRCG 73	

Search completed: July 1, 2003, 10:51:19  
Job time : 74.2188 secs

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OM protein - protein search, using sw model

Run on: July 1, 2003, 10:49:37 ; Search time 17.75 Seconds  
(without alignments)  
117.692 Million cell updates/sec

Title: US-09-910-082A-190  
Perfect score: 378  
Sequence: 1 MKLTCVIVAVLLTACQLI.....PCSRIAYNCTGSCRSKCG 71

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents\_AA:\*  
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2: /cgn2\_6/ptodata/1/1aa/5B\_COMB.pep:\*  
3: /cgn2\_6/ptodata/1/1aa/6A\_COMB.pep:\*  
4: /cgn2\_6/ptodata/1/1aa/6B\_COMB.pep:\*  
5: /cgn2\_6/ptodata/1/1aa/PCTUS\_COMB.pep:\*  
6: /cgn2\_6/ptodata/1/1aa/Backfiles1.pep:\*

Pred. NO. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	330	87.3	71	1	US-07-689-693B-1 Sequence 1, Appl1
2	259.5	68.7	73	1	US-07-689-693B-3 Sequence 3, Appl1
3	259.5	68.7	73	1	US-08-624-123-12 Sequence 12, Appl1
4	259.5	68.7	73	5	PCT-US96-05262-13 Sequence 13, Appl1
5	219	57.9	45	1	US-07-689-693B-19 Sequence 19, Appl1
6	198	52.4	45	1	US-07-689-693B-20 Sequence 20, Appl1
7	135.5	35.8	78	1	US-07-689-693B-5 Sequence 5, Appl1
8	135.5	35.8	78	1	US-08-624-123-13 Sequence 13, Appl1
9	135.5	35.8	78	2	US-08-716-308-2 Sequence 2, Appl1
10	135.5	35.8	78	2	US-08-716-308-16 Sequence 16, Appl1
11	135.5	35.8	78	5	PCT-US96-05262-14 Sequence 14, Appl1
12	135	35.7	77	2	US-08-716-308-17 Sequence 17, Appl1
13	134	35.4	77	1	US-07-689-693B-7 Sequence 7, Appl1
14	128	33.9	26	1	US-08-049-794-11 Sequence 11, Appl1
15	128	33.9	26	1	US-08-496-847-11 Sequence 11, Appl1
16	128	33.9	26	2	US-08-742-774-11 Sequence 11, Appl1
17	128	33.9	26	2	US-08-675-354-11 Sequence 11, Appl1
18	128	33.9	26	2	US-08-965-918-11 Sequence 11, Appl1
19	128	33.9	26	2	US-09-138-439-11 Sequence 11, Appl1
20	128	33.9	26	3	US-08-613-400A-11 Sequence 11, Appl1
21	128	33.9	26	3	US-09-298-017-11 Sequence 11, Appl1
22	128	33.9	26	4	US-09-392-979A-11 Sequence 11, Appl1
23	128	33.9	77	2	US-08-716-308-18 Sequence 18, Appl1
24	127	33.6	26	1	US-07-789-913-11 Sequence 11, Appl1
25	126	33.6	27	1	US-07-789-913-14 Sequence 14, Appl1
26	126	33.3	25	1	US-08-496-847-35 Sequence 35, Appl1
27	126	33.3	25	2	US-08-965-918-35 Sequence 35, Appl1

28	126	33.3	25	3	US-08-613-400A-35	Sequence 35, Appl1
29	126	33.3	81	1	US-08-624-123-10	Sequence 10, Appl1
30	126	33.3	81	5	PCT-US96-05262-5	Sequence 5, Appl1
31	123	32.5	25	1	US-08-049-794-12	Sequence 12, Appl1
32	123	32.5	25	1	US-08-496-847-12	Sequence 12, Appl1
33	123	32.5	25	2	US-08-742-774-12	Sequence 12, Appl1
34	123	32.5	25	2	US-08-675-354-12	Sequence 12, Appl1
35	123	32.5	25	2	US-08-965-918-12	Sequence 12, Appl1
36	123	32.5	25	2	US-09-138-439-12	Sequence 12, Appl1
37	123	32.5	25	3	US-08-613-400A-12	Sequence 12, Appl1
38	123	32.5	25	3	US-09-298-017-12	Sequence 12, Appl1
39	123	32.5	25	4	US-08-496-847-14	Sequence 14, Appl1
40	123	32.5	27	1	US-08-049-794-14	Sequence 14, Appl1
41	123	32.5	27	1	US-08-496-847-14	Sequence 14, Appl1
42	123	32.5	27	2	US-08-742-774-14	Sequence 14, Appl1
43	123	32.5	27	2	US-08-675-354-14	Sequence 14, Appl1
44	123	32.5	27	2	US-08-965-918-14	Sequence 14, Appl1
45	123	32.5	27	2	US-09-138-439-14	Sequence 14, Appl1

ALIGNMENTS

RESULT 1  
US-07-689-693B-1  
; Sequence 1, Application us/07689693B  
; Patent No. 5231011  
; GENERAL INFORMATION:  
; APPLICANT: David Hillyard  
; APPLICANT: Baldomero M. Olivera  
; TITLE OF INVENTION: Segregated Folding Determinants  
; TITLE OF INVENTION: for Small Disulfide-Rich Peptides  
; NUMBER OF SEQUENCES: 25  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Thorpe, No. 5231011th & Western  
; STREET: 9035 South 700 East, Suite 200  
; CITY: Sandy  
; STATE: Utah  
; COUNTRY: USA  
; ZIP: 84070  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette, 3.5 inch, 720 Kb storage  
; COMPUTER: Compaq LTE/286  
; OPERATING SYSTEM: DOS 4.01  
; SOFTWARE: Word Perfect 5.1  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/689, 693B  
; FILING DATE: 19910418  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: none  
; FILING DATE: na  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Western, M. Wayne  
; REGISTRATION NUMBER: 22,788  
; REFERENCE/DOCKET NUMBER: 9925  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (801) 566-6633  
; TELEFAX: (801) 566-0750  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 71 amino acids  
; TYPE: AMINO ACID  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
; FEATURE:  
; NAME/KEY: Prepropeptide sequence for four-loop  
; NAME/KEY: Mv11B Omega conotoxin from Conus magus.  
; IDENTIFICATION METHOD: Libraries were created  
; IDENTIFICATION METHOD: using oligo-dt primed pUC13 vector  
US-07-689-693B-1  
Query Match 87.3%; Score 330; DB 1; Length 71;

Best Local Similarity	87.38;	Pred. No. 6.2e-29;
Matches	62; Conservative	2; Mismatches 7; Indels 0; Gaps 0;

QY 1 MKLTCVIVAVLLLTACQLITADDSRGTKHRA LSDTKLSMSTRCKGTGKPCSR IAYNC 600  
 |||||  
 Db 1 MKLTCVIVAVLLLTACQLITADDSRGTKHRA LSDTKLSMSTRCKGKASCHRN SYDC 600  
 |||||

QY	61 CTGSCRSKCG 71
Db	61 CTGSCNRKCG 71

RESULT 2  
US-07-689-693B-3

GENERAL INFORMATION:

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1  COMPUTER READABLE FORM:
2  MEDIUM TYPE: Diskette, 3.5 inch, 720 Kb storage
3  COMPUTER: Compaq LTE/286
4  OPERATING SYSTEM: DOS 4.01
5  SOFTWARE: Word perfect 5.1

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; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/689,693B
; FILING DATE: 19910418
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
;

```

1 FILING DATE: 11/20/2001  
 2  
 3 ATTORNEY/AGENT INFORMATION:  
 4  
 5 NAME: Western, M. Wayne  
 6  
 7 REGISTRATION NUMBER: 22,788  
 8  
 9 REFERENCE/DOCKET NUMBER: 9925  
 10  
 11 TELECOMMUNICATION INFORMATION:  
 12  
 13 TELEPHONE: (801) 566-6633  
 14  
 15 TELEFAX: (801) 566-0750  
 16  
 17 INFORMATION FOR SEQ ID NO: 3:  
 18

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; ANNOTATION FOR CDS LOCUS
; SEQUENCE CHARACTERISTICS:
; LENGTH: 73 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; NAME/KEY: Prepropeptide sequence for four-loop
; NAME/KEY: GVIA Omega conotoxin from Conus geographus .
; IDENTIFICATION METHOD: Libraries were created
; IDENTIFICATION METHOD: using oligo-dt primed pUC13 vector
;
US-07-689-693B-3
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Query Match	68.7%;	Score 259.5;	DB 1;	Length 73;
Best Local Similarity	80.0%;	Pred. No. 2.5e-21;		
Matches	52;	Conservative	3;	Mismatches 9;
				Indels 1;
				Gaps 1;

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QY      1 MKLTCVAVIVLLLTACQLITADBSKGTQHRLRSDTFKLMSNRCKGKGTKPCSRIAYNC 600  
        |||||  
        | : : : : ||||| | : : : :  
Db      1 MKLTCVAVIVALLTACQLITADDSKGTQHRLAGSTTELSLRCKSPGSSCSPYSINC 600
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QY	61	CTGSC	65
		1	11
Db	61	CR-SC	64

RESULT 3  
US-08-624-123-12

GENERAL INFORMATION:

APPLICANT: Shon, Ki-joon  
APPLICANT: Grilley, Baidomero M.  
APPLICANT: Olivera, Baidomero M.  
TITLE OF INVENTION: Conotoxin peptides  
NUMBER OF SEQUENCES: 13  
CORRESPONDENCE ADDRESS:

```

1  FILE: 20005
2
3  COMPUTER READABLE FORM:
4  MEDIUM TYPE: Floppy disk
5
6  COMPUTER: IBM PC compatible
7  OPERATING SYSTEM: PC-DOS/MS-DOS
8  SOFTWARE: PatentIn Release #1.0, Version #1.30
9  CURRENT APPLICATION DATA:
10
11  100 100 100

```

FILING DATE: 530  
 CLASSIFICATION: 530  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US 08/319,554  
 FILING DATE: 07-OCT-1994

PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US 08/423,561  
 FILING DATE: 17-APR-1995  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Ihnen, Jeffrey L.  
 REGISTRATION NUMBER: 28,957  
 REFERENCE/DOCKET NUMBER: 24260-107674-5  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 202-962-4810  
 TELEFAX: 202-962-8300  
 INFORMATION FOR SEQ ID NO: 12:

US-08-624-123-12

Query Match	68.7%;	Score 259.5;	DB 1;	Length 73;
Best Local Similarity	80.0%;	Pred. No. 2;5e-21;		
Matches 52; Conservative	3;	Mismatches 9;	Indels 1;	Gaps 1.

```
QY      1 MKLTCVIVAVLLLTACQLITADDSRGTQKHRLRSDTKLSMSTRCKGKGKPCSRRIAYNC 60
        |||||
Db       1 MKLTCVIVAVALLTACQLITADDSRGTQKHRLAGSTTELSSTRCKSPGSSCSPTSYNC 60
```

QY	61	CTGSC	65
		1	11
Pb	61	CR-SC	64

RESULT 4  
PCT-US96-05262-13  
: Sequence 13, Application PC/TUS9605262

GENERAL INFORMATION.

APPLICANT: Shon, Ki-Joon

APPLICANT: Grilley, Michelle M.

APPLICANT: Olivera, Baldomero M.

APPLICANT: Yoshikami, Doju

APPLICANT: Marsh, Maren

APPLICANT: Cruz, Lourdes J.



APPLICANT: Hillyard, David R.  
TITLE OF INVENTION: Conotoxin Peptides  
NUMBER OF SEQUENCES: 14  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Venable, Baetjer, Howard & Civiletti, LLP  
STREET: 1201 New York Avenue, N.W., Suite 1000  
CITY: Washington  
STATE: DC  
COUNTRY: U.S.A.  
ZIP: 20005  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US96/05262  
FILING DATE: 17-APR-1996  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/423,561  
FILING DATE: 17-APR-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Saxe, Stephen A.  
REGISTRATION NUMBER: 38,609  
REFERENCE/DOCKET NUMBER: 24260-107674  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 202-962-4848  
TELEFAX: 202-962-8300  
INFORMATION FOR SEQ ID NO: 13:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 73 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
PCT-US96-05262-13

Query Match 68.7%; Score 259.5; DB 5; Length 73;  
Best Local Similarity 80.0%; Pred. No. 2.5e-21;  
Matches 52; Conservative 3; Mismatches 9; Indels 1; Gaps 1;

QY 1 MKLTCVIVAVLLTACQLTADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRIAYNC 60  
Db 1 MKLTCVIVAVLLTACQLTADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRIAYNC 60

QY 61 CTGSC 65  
Db 61 CR-SC 64

RESULT 5  
US-07-689-693B-19  
Sequence 19, Application US/07689693B  
Patent No. 5231011  
GENERAL INFORMATION:  
APPLICANT: David Hillyard  
APPLICANT: Baldomero M. Olivera  
TITLE OF INVENTION: Segregated Folding Determinants  
TITLE OF INVENTION: for Small Disulfide-Rich Peptides  
NUMBER OF SEQUENCES: 25  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Thorpe, No. 5231011th & Western  
STREET: 9035 South 700 East, Suite 200  
CITY: Sandy  
STATE: Utah  
COUNTRY: USA  
ZIP: 84070  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette, 3.5 inch, 720 kb storage  
COMPUTER: Compag LTE/286  
OPERATING SYSTEM: DOS 4.01

SOFTWARE: Word Perfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/689,693B  
FILING DATE: 19910418  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: none  
FILING DATE: na  
ATTORNEY/AGENT INFORMATION:  
NAME: Western, M. Wayne  
REGISTRATION NUMBER: 22,788  
REFERENCE/DOCKET NUMBER: 9925  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (801) 566-6633  
TELEFAX: (801) 566-0750  
INFORMATION FOR SEQ ID NO: 19:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 45 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
FEATURE:  
NAME/KEY: Signal/Pro sequence for synthesis of  
IDENTIFICATION METHOD: Libraries were created  
IDENTIFICATION METHOD: using oligo-dT primed pUC13 vector  
US-07-689-693B-19

Query Match 57.9%; Score 219; DB 1; Length 45;  
Best Local Similarity 100.0%; Pred. No. 3.4e-17;  
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MKLTCVIVAVLLTACQLTADDSRGTKHRLRSDTKLSMSTR 45  
Db 1 MKLTCVIVAVLLTACQLTADDSRGTKHRLRSDTKLSMSTR 45

RESULT 6  
US-07-689-693B-20  
Sequence 20, Application US/07689693B  
Patent No. 5231011  
GENERAL INFORMATION:  
APPLICANT: David Hillyard  
APPLICANT: Baldomero M. Olivera  
TITLE OF INVENTION: Segregated Folding Determinants  
TITLE OF INVENTION: for Small Disulfide-Rich Peptides  
NUMBER OF SEQUENCES: 25  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Thorpe, No. 5231011th & Western  
STREET: 9035 South 700 East, Suite 200  
CITY: Sandy  
STATE: Utah  
COUNTRY: USA  
ZIP: 84070  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette, 3.5 inch, 720 kb storage  
COMPUTER: Compag LTE/286  
OPERATING SYSTEM: DOS 4.01  
SOFTWARE: Word Perfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/689,693B  
FILING DATE: 19910418  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: none  
FILING DATE: na  
ATTORNEY/AGENT INFORMATION:  
NAME: Western, M. Wayne  
REGISTRATION NUMBER: 22,788  
REFERENCE/DOCKET NUMBER: 9925  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (801) 566-6633  
TELEFAX: (801) 566-0750

```

; INFORMATION FOR SEQ ID NO: 20:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 45 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; NAME/KEY: Signal/Pro sequence for synthesis of
; IDENTIFICATION METHOD: Libraries were created
; IDENTIFICATION METHOD: using oligo-dt primed pUC13 vector
; US-07-689-693B-20

Query Match      52.4%; Score 198; DB 1; Length 45;
Best Local Similarity 91.1%; Pred. No. 6.2e-15;
Matches 41; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY      1 MKLTCVIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTR 45
        |||||||
Db      1 MKLTCVIVAVLLLTACQLITADDSRGTKHRLRSDTKLSSTR 45

RESULT 7
US-07-689-693B-5
; Sequence 5, Application US/07689693B
; Patent No. 5231011
; GENERAL INFORMATION:
; APPLICANT: David Hillyard
; APPLICANT: Baldomero M. Olivera
; TITLE OF INVENTION: Segregated Folding Determinants
; TITLE OF INVENTION: for Small Disulfide-Rich Peptides
; NUMBER OF SEQUENCES: 25
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Thorpe, NO. 5231011th & Western
; STREET: 9035 South 700 East, Suite 200
; CITY: Sandy
; STATE: Utah
; COUNTRY: USA
; ZIP: 84070
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 3.5 inch, 720 Kb storage
; COMPUTER: Compaq LITE/286
; OPERATING SYSTEM: DOS 4.01
; SOFTWARE: Word Perfect 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/689,693B
; FILING DATE: 19910418
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: none
; FILING DATE: na
; ATTORNEY/AGENT INFORMATION:
; NAME: Western, M. Wayne
; REGISTRATION NUMBER: 22,788
; REFERENCE/DOCKET NUMBER: 9925
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (801) 566-6633
; TELEFAX: (801) 566-0750
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; NAME/KEY: Prepropeptide sequence for four loop
; IDENTIFICATION METHOD: Library was constructed
; IDENTIFICATION METHOD: using polyA selected mRNA transcripts purified
; IDENTIFICATION METHOD: from Conus textile venom duct tissue and cloned
; IDENTIFICATION METHOD: into the Okyama-Berg oligo-dt primed plasmid
; IDENTIFICATION METHOD: PSV7186.
; US-07-689-693B-5
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Query Match      35.8%; Score 135.5; DB 1; Length 78;
Best Local Similarity 40.3%; Pred. No. 5.8e-08;
Matches 29; Conservative 12; Mismatches 24; Indels 7; Gaps 2;

QY      1 MKLTCVIVAVLLLTACQLITADDSRG-----TQKRALRSDTKLSMSTR-CKGTGKPC 53
        |||||:|||||
Db      1 MKLTCMIVAVLLTATWTFATADDPRLNGLSFSNAHHEKKNPEASKLNKRWCKQSGEMC 60

QY      54 SRIAYNCTGSC 65
        : : ||| | |
Db      61 NLLDQNCDDGYC 72
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```

RESULT 8
US-08-624-123-13
; Sequence 13, Application US/08624123
; Patent No. 5739276
; GENERAL INFORMATION:
; APPLICANT: Shon, Ki-Joon
; APPLICANT: Grille, Michelle M.
; APPLICANT: Olivera, Baldomero M.
; TITLE OF INVENTION: Conotoxin Peptides
; NUMBER OF SEQUENCES: 13
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Venable, Baetjer, Howard & Civiletti
; STREET: 1201 New York Avenue N.W.
; CITY: Washington
; STATE: DC
; COUNTRY: US
; ZIP: 20005
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/624,123
; FILING DATE:
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/319,554
; FILING DATE: 07-OCT-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/423,561
; FILING DATE: 17-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Ihnen, Jeffrey L.
; REGISTRATION NUMBER: 28,957
; REFERENCE/DOCKET NUMBER: 24260-107674-5
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 202-962-4810
; TELEFAX: 202-962-8300
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; HYPOTHETICAL: NO
; US-08-624-123-13

Query Match      35.8%; Score 135.5; DB 1; Length 78;
Best Local Similarity 40.3%; Pred. No. 5.8e-08;
Matches 29; Conservative 12; Mismatches 24; Indels 7; Gaps 2;

QY      1 MKLTCVIVAVLLLTACQLITADDSRG-----TQKRALRSDTKLSMSTR-CKGTGKPC 53
        |||||:|||||
Db      1 MKLTCMIVAVLLTATWTFATADDPRLNGLSFSNAHHEKKNPEASKLNKRWCKQSGEMC 60

QY      54 SRIAYNCTGSC 65
        : : ||| | |
```

Db 61 NLLDQNCDDGYC 72

## RESULT 9

US-08-716-308-2

; Sequence 2, Application US/08716308

; Patent No. 5885569

; GENERAL INFORMATION:

; APPLICANT: Windass, John D.

; TITLE OF INVENTION: Biological Insect Control Agent

; NUMBER OF SEQUENCES: 18

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: ZENECA Inc.

; STREET: 1800 Concord Pike

; CITY: Wilmington

; STATE: DE

; COUNTRY: USA

; ZIP: 19850

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patentin Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/716,308

; FILING DATE: 24-SEP-1996

; CLASSIFICATION: 424

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: PCT/GB95/00677

; FILING DATE: 27-MAR-1995

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: GB 9405951.6

; FILING DATE: 25-MAR-1994

; ATTORNEY/AGENT INFORMATION:

; NAME: Hohenschutz, Liza D.

; REGISTRATION NUMBER: 33,712

; REFERENCE/DOCKET NUMBER: PPD40027X/UST

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (302) 886-1699

; INFORMATION FOR SEQ ID NO: 2:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 78 amino acids

; TYPE: amino acid

; TOPOLOGY: linear

; MOLECULE TYPE: peptide

; US-08-716-308-2

## Query Match

Best Local Similarity 40.3%; Score 135.5; DB 2; Length 78;

Matches 29; Conservative 12; Mismatches 24; Indels 7; Gaps 2;

QY 1 MKLTCVYIVAVLLTACQLITADDSRG-----TQKRALRSDFKLSMSTR-CKGTGKPC 53

Db 1 MKLTCMIVAVLFLTAWTFATADPRNGLGNLFSNAHEMKNPASKLNKRWCQSGEMC 60

QY 54 SRIAYNCTGSC 65

Db 61 NLLDQNCDDGYC 72

## RESULT 10

US-08-716-308-16

; Sequence 16, Application US/08716308

; Patent No. 5885569

; GENERAL INFORMATION:

; APPLICANT: Windass, John D.

; TITLE OF INVENTION: Biological Insect Control Agent

; NUMBER OF SEQUENCES: 18

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: ZENECA Inc.

; STREET: 1800 Concord Pike

; CITY: Wilmington

; STATE: DE

COUNTRY: USA

ZIP: 19850

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patentin Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/716,308

; FILING DATE: 24-SEP-1996

; CLASSIFICATION: 424

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: PCT/GB95/00677

; FILING DATE: 27-MAR-1995

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: GB 9405951.6

; FILING DATE: 25-MAR-1994

; ATTORNEY/AGENT INFORMATION:

; NAME: Hohenschutz, Liza D.

; REGISTRATION NUMBER: 33,712

; REFERENCE/DOCKET NUMBER: PPD40027X/UST

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (302) 886-1699

; INFORMATION FOR SEQ ID NO: 16:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 78 amino acids

; TYPE: amino acid

; TOPOLOGY: linear

; MOLECULE TYPE: peptide

; US-08-716-308-16

## Query Match

Best Local Similarity 40.3%; Score 135.5; DB 2; Length 78;

Matches 29; Conservative 12; Mismatches 24; Indels 7; Gaps 2;

QY 1 MKLTCVYIVAVLLTACQLITADDSRG-----TQKRALRSDFKLSMSTR-CKGTGKPC 53

Db 1 MKLTCMIVAVLFLTAWTFATADPRNGLGNLFSNAHEMKNPASKLNKRWCQSGEMC 60

QY 54 SRIAYNCTGSC 65

Db 61 NLLDQNCDDGYC 72

## RESULT 11

PCT-US96-05262-14

; Sequence 14, Application PC/TUS9605262

; GENERAL INFORMATION:

; APPLICANT: Shon, Ki-Joon

; APPLICANT: Grille, Michelle M.

; APPLICANT: Olivera, Balamero M.

; APPLICANT: Yoshikami, Doju

; APPLICANT: Marsh, Maren

; APPLICANT: Cruz, Lourdes J.

; APPLICANT: Hillyard, David R.

; TITLE OF INVENTION: Conotoxin Peptides

; NUMBER OF SEQUENCES: 14

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Venable, Baetjer, Howard & Civiletti, LLP

; STREET: 1201 New York Avenue, N.W., Suite 1000

; CITY: Washington

; STATE: DC

; COUNTRY: U.S.A.

; ZIP: 20005

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patentin Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: PCT/US96/05262

; FILING DATE: 17-APR-1996

; CLASSIFICATION:

PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/423,561  
FILING DATE: 17-APR-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Saxe, Stephen A.  
REGISTRATION NUMBER: 38,609  
REFERENCE/DOCKET NUMBER: 24260-107674  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 202-962-4848  
TELEFAX: 202-962-8300  
INFORMATION FOR SEQ ID NO: 14:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
PCT-US96-05262-14

Query Match 35.8%; Score 135.5; DB 5; Length 78;  
Best Local Similarity 40.3%; Pred. No. 5.8e-08;  
Matches 29; Conservative 12; Mismatches 24; Indels 7; Gaps 2;

QY 1 MKLTCVIVAVLLITACQLITADDSRG-----TQKRALRSDTKLSMSTR-CKGTGKPC 53  
|||||:||||| ||| ||||| :|::: |||:|:|  
Db 1 MKLTCMIVAVLFLTAWTFATADDPKNGICNLFSAHHEMKNPESAKLNKRWCKSGEMC 60

QY 54 SRIAYNCTGSC 65  
: : ||| | |  
Db 61 NLLDQNCDDGYC 72

RESULT 12  
US-08-716-308-17  
Sequence 17, Application US/08716308  
Patent No. 5885569  
GENERAL INFORMATION:  
APPLICANT: Windass, John D.  
TITLE OF INVENTION: Biological Insect Control Agent  
NUMBER OF SEQUENCES: 18  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: ZENECA Inc.  
STREET: 1800 Concord Pike  
CITY: Wilmington  
STATE: DE  
COUNTRY: USA  
ZIP: 19850  
COMPUTER READABLE FORM:  
MEDIUM TYPE: floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/716,308  
FILING DATE: 24-SEP-1996  
CLASSIFICATION: 424  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: PCT/GB95/00677  
FILING DATE: 27-MAR-1995  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: GB 9405951.6  
FILING DATE: 25-MAR-1994  
ATTORNEY/AGENT INFORMATION:  
NAME: Hohenschultz, Liza D.  
REGISTRATION NUMBER: 33,712  
REFERENCE/DOCKET NUMBER: PPD40027X/UST  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (302) 886-1699  
INFORMATION FOR SEQ ID NO: 17:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 77 amino acids  
TYPE: amino acid

TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-716-308-17

Query Match 35.7%; Score 135; DB 2; Length 77;  
Best Local Similarity 39.4%; Pred. No. 6.5e-08;  
Matches 28; Conservative 10; Mismatches 27; Indels 6; Gaps 1;

QY 1 MKLTCVIVAVLLITACQLITADDSRG-----TQKRALRSDTKLSMSTRCKGTGKPCS 54  
|||||:||||| ||| ||||| :|::: |||:|:|  
Db 1 MKLTCMIVAVLFLTAWTFATADDSNGLNLFSAHHEMKNPESAKLNKRCIEQFDPCE 60

QY 55 RIAYNCTGSC 65  
: : ||| | |  
Db 61 MIRHTCCVVC 71

RESULT 13  
US-07-689-693B-7  
Sequence 7, Application US/07689693B  
Patent No. 5231011

GENERAL INFORMATION:  
APPLICANT: David Hillyard  
APPLICANT: Baldomero M. Olivera  
TITLE OF INVENTION: Segregated Folding Determinants  
TITLE OF INVENTION: for Small Disulfide-Rich Peptides  
NUMBER OF SEQUENCES: 25  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Thorpe, No. 5231011th & Western  
STREET: 9035 South 700 East, Suite 200  
CITY: Sandy  
STATE: Utah  
COUNTRY: USA  
ZIP: 84070

COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette, 3.5 inch, 720 kb storage

COMPUTER: Compaq LTE/286  
OPERATING SYSTEM: DOS 4.01  
SOFTWARE: Word Perfect 5.1

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/689,693B  
FILING DATE: 19910418

CLASSIFICATION: 530

PRIOR APPLICATION DATA:

APPLICATION NUMBER: none  
FILING DATE: na

ATTORNEY/AGENT INFORMATION:

NAME: Western, M. Wayne

REGISTRATION NUMBER: 22,788

REFERENCE/DOCKET NUMBER: 9925

TELECOMMUNICATION INFORMATION:

TELEPHONE: (801) 566-6633

TELEFAX: (801) 566-0750

INFORMATION FOR SEQ ID NO: 7:

SEQUENCE CHARACTERISTICS:

LENGTH: 77 amino acids

TYPE: AMINO ACID

TOPOLOGY: linear

MOLECULE TYPE: peptide

FEATURE:

NAME/KEY: Prepropeptide sequence for four loop

IDENTIFICATION METHOD: Library was constructed

IDENTIFICATION METHOD: using polyA selected mRNA transcripts purified

IDENTIFICATION METHOD: from Conus textile venom duct tissue and cloned

IDENTIFICATION METHOD: into the Okyama-Berg oligo-dT primed plasmid

US-07-689-693B-7

Query Match 35.4%; Score 134; DB 1; Length 77;  
Best Local Similarity 39.4%; Pred. No. 8.4e-08;  
Matches 28; Conservative 10; Mismatches 27; Indels 6; Gaps 1;

OY 1 MKLTCVIVAVLLTACOLITADDSRG-----TQKRALRSDTKLSMSTRCKGTGKPCS 54  
||||:||||| ||| ||||| :| :|| :| ||  
Db 1 MKLTCMIVAVLFLTAWFATADDSGNGLENSFSKAHHEMKNPEASKLNKRCIEQFDCE 60

OY 55 RIAYNCCTGSC 65  
| : || | |  
Db 61 MIRHTCCVGC 71

## RESULT 14

US-08-049-794-11  
; Sequence 11, Application US/08049794  
; Patent No. 5587454

## GENERAL INFORMATION:

APPLICANT: JUSTICE, ALAN  
APPLICANT: SINGH, TEJINDER  
APPLICANT: GOHIL, KISHOR C  
APPLICANT: VALENTINO, KAREN L  
APPLICANT: MILJANICH, GEORGE P  
TITLE OF INVENTION: METHODS OF PRODUCING ANALGESIA AND  
TITLE OF INVENTION: ENHANCING OPIATE ANALGESIA  
NUMBER OF SEQUENCES: 34  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Law Offices of Peter Dehlinger  
STREET: 350 Cambridge Avenue, Suite 300  
CITY: Palo Alto  
STATE: CA  
COUNTRY: USA  
ZIP: 94306

## COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/049,794  
FILING DATE: 19930415  
CLASSIFICATION: 514

## PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/814,759  
FILING DATE: 30-DEC-1991

## ATTORNEY/AGENT INFORMATION:

NAME: Stratford, Carol A.

REGISTRATION NUMBER: 34,444

REFERENCE/DOCKET NUMBER: 5865-0009.30

TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 324-0880

TELEFAX: (415) 324-0960

INFORMATION FOR SEQ ID NO: 11:

SEQUENCE CHARACTERISTICS:

LENGTH: 26 amino acids

TYPE: AMINO ACID

TOPOLOGY: linear

MOLECULE TYPE: protein

HYPOTHETICAL: NO

ORIGINAL SOURCE:

INDIVIDUAL ISOLATE: SNX-193, FIGURE 2

US-08-049-794-11

Query Match 33.9%; Score 128; DB 1; Length 26;  
Best Local Similarity 76.9%; Pred. No. 1.2e-07;  
Matches 20; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 46 CKGTGKPCSRIAYNCCTGSCRSKCG 71  
||| | ||| :| :||||| |||||  
Db 1 CKGAGAKCSRLMYDCCTGSCRSKCG 26

## RESULT 15

US-08-496-847-11  
; Sequence 11, Application US/08496847  
; Patent No. 5795864  
; GENERAL INFORMATION:

APPLICANT: Amstutz, Gary A.  
APPLICANT: Bowersox, Stephen S.  
APPLICANT: Gohil, Kishorchandra  
APPLICANT: Adriaenssens, Peter I.  
APPLICANT: Kristipati, Ramasharma  
TITLE OF INVENTION: METHODS AND  
TITLE OF INVENTION: FORMULATIONS FOR PREVENTING PROGRESSION OF NEUROPATHIC PAIN  
NUMBER OF SEQUENCES: 36  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Dehlinger & Associates  
STREET: 350 Cambridge Avenue, Suite 250  
CITY: Palo Alto  
STATE: CA  
COUNTRY: USA

ZIP: 94306-1546

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette

COMPUTER: IBM Compatible

OPERATING SYSTEM: DOS

SOFTWARE: FastSeq for Windows Version 2.0

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/496,847

FILING DATE: 27-JUN-1995

CLASSIFICATION: 514

ATTORNEY/AGENT INFORMATION:

NAME: Stratford, Carol A.

REGISTRATION NUMBER: 34,444

REFERENCE/DOCKET NUMBER: 5865-0009.31

TELECOMMUNICATION INFORMATION:

TELEPHONE: 650-324-0880

TELEFAX: 650-324-0960

INFORMATION FOR SEQ ID NO: 11:

SEQUENCE CHARACTERISTICS:

LENGTH: 26 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

HYPOTHETICAL: NO

ORIGINAL SOURCE:

INDIVIDUAL ISOLATE: SNX-193, FIGURE 2

US-08-496-847-11

Query Match 33.9%; Score 128; DB 1; Length 26;  
Best Local Similarity 76.9%; Pred. No. 1.2e-07;  
Matches 20; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 46 CKGTGKPCSRIAYNCCTGSCRSKCG 71  
||| | ||| :| :||||| |||||  
Db 1 CKGAGAKCSRLMYDCCTGSCRSKCG 26

Search completed: July 1, 2003, 10:53:54  
Job time : 18.75 secs



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GenCore version 5.1.6  
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: July 1, 2003, 10:52:57 ; Search time 25.1458 Seconds  
(without alignments)  
309.591 Million cell updates/sec

Title: US-09-910-082A-190  
Perfect score: 378  
Sequence: 1 MKLTCVIVAVLLLTACQLI.....PCSRIVNCTGSCRSKCG 71

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 424699 seqs, 109646833 residues

Total number of hits satisfying chosen parameters: 424699

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications\_AA:\*

1:	/cgn2_6/ptodata/1/pubppaa/US08_NEW_PUB.pep:*
2:	/cgn2_6/ptodata/1/pubppaa/PCR_NEW_PUB.pep:*
3:	/cgn2_6/ptodata/1/pubppaa/US06_NEW_PUB.pep:*
4:	/cgn2_6/ptodata/1/pubppaa/US06_PUBCOMB.pep:*
5:	/cgn2_6/ptodata/1/pubppaa/US07_NEW_PUB.pep:*
6:	/cgn2_6/ptodata/1/pubppaa/US07_PUBCOMB.pep:*
7:	/cgn2_6/ptodata/1/pubppaa/PCRUS_PUBCOMB.pep:*
8:	/cgn2_6/ptodata/1/pubppaa/US08_PUBCOMB.pep:*
9:	/cgn2_6/ptodata/1/pubppaa/US09_NEW_PUB.pep:*
10:	/cgn2_6/ptodata/1/pubppaa/US09_PUBCOMB.pep:*
11:	/cgn2_6/ptodata/1/pubppaa/US10_NEW_PUB.pep:*
12:	/cgn2_6/ptodata/1/pubppaa/US10_PUBCOMB.pep:*
13:	/cgn2_6/ptodata/1/pubppaa/US60_NEW_PUB.pep:*
14:	/cgn2_6/ptodata/1/pubppaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	211.5	56.0	77	9	US-09-749-637A-408 Sequence 408, Appl
2	200	52.9	74	9	US-10-072-602B-29 Sequence 29, Appl
3	171	45.2	81	9	US-10-072-602B-168 Sequence 168, App
4	168.5	44.6	76	9	US-10-072-602B-153 Sequence 153, App
5	162	42.9	75	9	US-10-072-602B-113 Sequence 113, App
6	152.5	40.3	76	9	US-09-749-637A-207 Sequence 207, App
7	151.5	40.1	80	9	US-10-072-602B-65 Sequence 65, Appl
8	150.5	39.8	88	9	US-10-072-602B-150 Sequence 150, App
9	149.5	39.6	88	9	US-10-072-602B-150 Sequence 147, App
10	147	38.9	77	9	US-09-749-637A-48 Sequence 48, Appl
11	143	37.8	77	9	US-09-749-637A-294 Sequence 294, App
12	143	37.8	77	9	US-09-749-637A-330 Sequence 330, App
13	142	37.6	77	9	US-09-749-637A-42 Sequence 42, Appl
14	142	37.6	79	9	US-10-072-602B-255 Sequence 255, App
15	141	37.3	77	9	US-10-072-602B-137 Sequence 137, App
16	139	36.8	77	9	US-09-749-637A-39 Sequence 39, Appl
17	139	36.8	80	9	US-09-749-637A-86 Sequence 86, Appl
18	138.5	36.6	78	9	US-09-749-637A-26 Sequence 26, Appl
19	138.5	36.6	78	9	US-09-749-637A-33 Sequence 33, Appl

20	136	36.0	80	9	US-09-749-637A-65	Sequence 65, Appl
21	135.5	35.8	75	9	US-10-072-602B-264	Sequence 264, App
22	135.5	35.8	78	9	US-09-749-637A-22	Sequence 22, Appl
23	135.5	35.8	78	9	US-09-749-637A-30	Sequence 30, Appl
24	134.5	35.6	78	9	US-10-072-602B-222	Sequence 222, App
25	134	35.4	76	9	US-09-749-637A-321	Sequence 321, App
26	134	35.4	80	9	US-09-749-637A-83	Sequence 83, Appl
27	131	34.7	76	9	US-09-749-637A-80	Sequence 80, Appl
28	131	34.7	77	9	US-09-749-637A-116	Sequence 116, App
29	130	34.4	95	9	US-09-749-637A-264	Sequence 264, App
30	129.5	34.3	76	9	US-09-749-637A-62	Sequence 62, Appl
31	129	34.1	77	9	US-09-749-637A-71	Sequence 71, Appl
32	128	33.9	77	9	US-09-749-637A-110	Sequence 110, App
33	127.5	33.7	82	9	US-10-072-602B-291	Sequence 291, App
34	126.5	33.5	78	9	US-10-072-602B-267	Sequence 267, App
35	126	33.3	78	9	US-09-749-637A-13	Sequence 13, Appl
36	126	33.3	78	9	US-09-749-637A-152	Sequence 152, App
37	125	33.1	76	9	US-09-749-637A-306	Sequence 306, App
38	125	33.1	78	9	US-09-749-637A-122	Sequence 122, App
39	124	32.8	76	9	US-09-749-637A-339	Sequence 339, App
40	124	32.8	80	9	US-10-072-602B-56	Sequence 56, Appl
41	123.5	32.7	82	9	US-10-072-602B-140	Sequence 140, App
42	123	32.5	77	9	US-09-749-637A-113	Sequence 113, App
43	121	32.0	75	9	US-09-749-637A-36	Sequence 36, Appl
44	121	32.0	77	9	US-09-749-637A-2	Sequence 2, Appl
45	121	32.0	77	9	US-09-749-637A-77	Sequence 77, Appl

ALIGNMENTS

RESULT 1  
US-09-749-637A-408  
Sequence 408, Application US/09749637A  
Patent No. US20020173449A1  
GENERAL INFORMATION:  
APPLICANT: University of Utah Research Foundation  
APPLICANT: Cognetix, Inc.  
APPLICANT: Olivera, Baldomero M.  
APPLICANT: Cartier, G. Edward  
APPLICANT: Watkins, Maren  
APPLICANT: Hillyard, David R.  
APPLICANT: McIntosh, J. Michael  
APPLICANT: Layer, Richard T.  
APPLICANT: Jones, Robert M.  
TITLE OF INVENTION: O-Superfamily Conotoxin Peptides  
FILE REFERENCE: 2314-227  
CURRENT APPLICATION NUMBER: US/09/749, 637A  
CURRENT FILING DATE: 2000-12-28  
PRIOR APPLICATION NUMBER: US 60/243,412  
PRIOR FILING DATE: 2000-10-27  
PRIOR APPLICATION NUMBER: US60/219,440  
PRIOR FILING DATE: 2000-07-20  
PRIOR APPLICATION NUMBER: US 60/214,263  
PRIOR FILING DATE: 2000-06-26  
PRIOR APPLICATION NUMBER: US 60/173,754  
PRIOR FILING DATE: 1999-12-30  
NUMBER OF SEQ ID NOS: 409  
SOFTWARE: PatentIn version 3.0  
SEQ ID NO 408  
LENGTH: 77  
TYPE: PRT  
ORGANISM: Conus striolatus  
US-09-749-637A-408

Query Match 56.0%; Score 211.5; DB 9; Length 77;  
Best Local Similarity 67.7%; Pred. No. 1.6e-14;  
Matches 44; Conservative 3; Mismatches 17; Indels 1; Gaps 1;

QY 1 MKLTCVIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRIVNC 60  
Db 1 MKLTCVIVAVLLLTACQLITADDSRGTKHRLRSDTKLSMSTRCKGTGKPCSRIVNC 60





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;; CURRENT FILING DATE: 2002-02-11
;; PRIOR APPLICATION NUMBER: US 60/267,408
;; PRIOR FILING DATE: 2001-02-09
;; NUMBER OF SEQ ID NOS: 638
;; SOFTWARE: PatentIn version 3.0
;; SEQ ID NO 147
;; LENGTH: 88
;; TYPE: PRT
;; ORGANISM: Conus miles
US-10-072-602B-147
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Query Match          39.8%; Score 150.5; DB 9; Length 88;
Best Local Similarity 45.8%; Pred. No. 2.6e-08;
Matches 33; Conservative 14; Mismatches 18; Indels 7; Gaps 2;
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QY      1 MKLTCVIVAVLLLTACQLITADD-SRGTQKHRLRS-----DTKLSMSTRCKGTGKPC 53
          ||||| ||||| ||||| ||||| :| |::| |||
Db      1 MKLTCVIVAVLFLTACQLITAAANYARDEQEPAYVRSSDVMDSEDLTLTKKCTDSDQFC 60
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QY      54 SRIAYNCTGSC 65
          :|||:| |
Db      61 NPSNHDCCSGKC 72
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RESULT 9
US-10-072-602B-150
; Sequence 150, Application US/10072602B
; Publication No. US20030109670A1
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```
; GENERAL INFORMATION:
; APPLICANT: University of Utah Research Foundation
; APPLICANT: Cognetix, Inc.
; APPLICANT: Olivera, Baldomero M.
; APPLICANT: McIntosh, J, Michael
; APPLICANT: Watkins, Maren
; APPLICANT: Garrett, James E.
; APPLICANT: Cruz, Lourdes J.
; APPLICANT: Grilley, Michelle
; APPLICANT: Schoenfeld, Robert M.
; APPLICANT: Walker, Craig
; APPLICANT: Shetty, Reshma
; APPLICANT: Jones, Robert M.
; TITLE OF INVENTION: Cone Snail Peptides
; FILE REFERENCE: 2314-249
; CURRENT APPLICATION NUMBER: US/10/072,602B
; CURRENT FILING DATE: 2002-02-11
; PRIOR APPLICATION NUMBER: US 60/267,408
; PRIOR FILING DATE: 2001-02-09
; NUMBER OF SEQ ID NOS: 638
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 150
; LENGTH: 88
; TYPE: PRT
; ORGANISM: Conus miles
US-10-072-602B-150
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Query Match          39.6%; Score 149.5; DB 9; Length 88;
Best Local Similarity 45.8%; Pred. No. 3.3e-08;
Matches 33; Conservative 14; Mismatches 18; Indels 7; Gaps 2;
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QY      1 MKLTCVIVAVLLLTACQLITADD-SRGTQKHRLRS-----DTKLSMSTRCKGTGKPC 53
          ||||| ||||| ||||| ||||| :| |::| |||
Db      1 MKLTCVIVAVLFLTACQLITAAANYARDEQEPAYVRSSDVMDSEDLTLTKKCTDSDQFC 60
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QY      54 SRIAYNCTGSC 65
          :|||:| |
Db      61 NPSNHDCCSGKC 72
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RESULT 10
US-09-749-637A-48
; Sequence 48, Application US/09749637A
; Patent No. US20020173449A1
; GENERAL INFORMATION:
```

```
;; APPLICANT: University of Utah Research Foundation
;; APPLICANT: Cognetix, Inc.
;; APPLICANT: Olivera, Baldomero M.
;; APPLICANT: Cartier, G. Edward
;; APPLICANT: Watkins, Maren
;; APPLICANT: Hillyard, David R.
;; APPLICANT: McIntosh, J. Michael
;; APPLICANT: Layer, Richard T.
;; APPLICANT: Jones, Robert M.
;; TITLE OF INVENTION: O-Superfamily Conotoxin Peptides
;; FILE REFERENCE: 2314-227
;; CURRENT APPLICATION NUMBER: US/09/749,637A
;; CURRENT FILING DATE: 2000-12-28
;; PRIOR APPLICATION NUMBER: US 60/243,412
;; PRIOR FILING DATE: 2000-10-27
;; PRIOR APPLICATION NUMBER: US60/219,440
;; PRIOR FILING DATE: 2000-07-20
;; PRIOR APPLICATION NUMBER: US 60/214,263
;; PRIOR FILING DATE: 2000-06-26
;; PRIOR APPLICATION NUMBER: US 60/173,754
;; PRIOR FILING DATE: 1999-12-30
;; NUMBER OF SEQ ID NOS: 409
;; SOFTWARE: PatentIn version 3.0
;; SEQ ID NO 48
;; LENGTH: 77
;; TYPE: PRT
;; ORGANISM: Conus magus
US-09-749-637A-48
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Query Match          38.9%; Score 147; DB 9; Length 77;
Best Local Similarity 43.7%; Pred. No. 5.1e-08;
Matches 31; Conservative 9; Mismatches 25; Indels 6; Gaps 2;
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QY      1 MKLTCVIVAVLLLTACQLITADDS-RGTQK-----HRLRSDTKLSMSTRCKGTGKPCS 54
          ||||| ||||| ||||| ||||| |::| |||
Db      1 MKLTCVIVAVLFLTWTFATADDSGNLEKLFSSNAHEMKNPASKLNKRCQADEPCD 60
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QY      55 RIAVNCCTGSC 65
          :|||:| |
Db      61 VFSLECTGIC 71
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RESULT 11
US-09-749-637A-294
; Sequence 294, Application US/09749637A
; Patent No. US20020173449A1
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; GENERAL INFORMATION:
; APPLICANT: University of Utah Research Foundation
; APPLICANT: Cognetix, Inc.
; APPLICANT: Olivera, Baldomero M.
; APPLICANT: Cartier, G. Edward
; APPLICANT: Watkins, Maren
; APPLICANT: Hillyard, David R.
; APPLICANT: McIntosh, J. Michael
; APPLICANT: Layer, Richard T.
; APPLICANT: Jones, Robert M.
```

```
; TITLE OF INVENTION: O-Superfamily Conotoxin Peptides
; FILE REFERENCE: 2314-227
; CURRENT APPLICATION NUMBER: US/09/749,637A
; CURRENT FILING DATE: 2000-12-28
; PRIOR APPLICATION NUMBER: US 60/243,412
; PRIOR FILING DATE: 2000-10-27
; PRIOR APPLICATION NUMBER: US60/219,440
; PRIOR FILING DATE: 2000-07-20
; PRIOR APPLICATION NUMBER: US 60/214,263
; PRIOR FILING DATE: 2000-06-26
; PRIOR APPLICATION NUMBER: US 60/173,754
; PRIOR FILING DATE: 1999-12-30
; NUMBER OF SEQ ID NOS: 409
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 294
; LENGTH: 77
; TYPE: PRT
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Db 1 MKLTCVVIITVLFITASQLITADYSRDQROYRAVRLGDEMRFKRGARDCGGEGC--YT 58  
QY 58 YNCCTG-SCRSKCG 71  
Db 59 QPCCPGLRCRGGGTG 73

RESULT 15

US-10-072-602B-137  
; Sequence 137, Application US/10072602B  
; Publication No. US20030109670A1  
; GENERAL INFORMATION:  
; APPLICANT: University of Utah Research Foundation  
; APPLICANT: Cognetix, Inc.  
; APPLICANT: Olivera, Baldomero M.  
; APPLICANT: McIntosh, J, Michael  
; APPLICANT: Watkins, Maren  
; APPLICANT: Garrett, James E.  
; APPLICANT: Cruz, Lourdes J.  
; APPLICANT: Grille, Michelle  
; APPLICANT: Schoenfeld, Robert M.  
; APPLICANT: Walker, Craig  
; APPLICANT: Shetty, Reshma  
; APPLICANT: Jones, Robert M.  
; TITLE OF INVENTION: Cone Snail Peptides  
; FILE REFERENCE: 2314-249  
; CURRENT APPLICATION NUMBER: US/10/072, 602B  
; CURRENT FILING DATE: 2002-02-11  
; PRIOR APPLICATION NUMBER: US 60/267,408  
; PRIOR FILING DATE: 2001-02-09  
; NUMBER OF SEQ ID NOS: 638  
; SOFTWARE: Patent version 3.0  
; SEQ ID NO 137  
; LENGTH: 77  
; TYPE: PRT  
; ORGANISM: Conus lividus  
; US-10-072-602B-137

Query Match 37.3%; Score 141; DB 9; Length 77;  
Best Local Similarity 49.3%; Pred. No. 2.1e-07;  
Matches 37; Conservative 6; Mismatches 26; Indels 6; Gaps 3;  
QY 1 MKLTCVIVAVLLTACOLITADDSRGTOKRALR---SDTKLSMSTRCKGTGKPCSRIA 57  
Db 1 MKLTCVVIITVLFITASQLITADYSRDQROYRAVRLGDEMRFKRGARDCGGEGC--YT 58  
QY 58 YNCCTG-SCRSKCG 71  
Db 59 QPCCPGLRCRGGGTG 73

Search completed: July 1, 2003, 11:01:51  
Job time : 25.1458 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: July 1, 2003, 10:48:47 ; Search time 7.03125 Seconds  
(without alignments)  
341.811 Million cell updates/sec

Title: US-09-910-082A-375  
Perfect score: 153  
Sequence: 1 CKGTGKPCSRIVAYNCTGSCRSRGC 25

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR\_73:\*  
1: pir1:\*  
2: pir2:\*  
3: pir3:\*  
4: pir4:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	121	79.1	25	2 JH0700	omega-conotoxin MV
2	105	68.6	25	2 JH0701	omega-conotoxin MV
3	98.5	64.4	29	2 JH0699	omega-conotoxin MV
4	94	61.4	29	2 A58537	omega-conotoxin MV
5	89.5	58.5	26	2 C44379	omega-conotoxin SV
6	67.5	44.1	29	2 A43620	omega-conotoxin GV
7	67.5	44.1	29	2 B43620	omega-conotoxin GV
8	66	43.1	26	2 T28626	variant-specific s
9	61.5	40.2	73	1 NTKN6G	omega-conotoxin GV
10	61.5	40.2	909	1 QRXLLI	LDL receptor 1 pre
11	61	39.9	78	2 S12513	delta-conotoxin Tx
12	60.5	39.5	139	2 S54085	probable membrane
13	60	39.2	24	2 B44379	omega-conotoxin SV
14	60	39.2	27	2 S19619	delta-conotoxin Tx
15	60	39.2	4753	1 A47437	LDL-receptor-relat
16	59.5	38.9	52	2 T10299	conotoxin-like pro
17	59	38.6	2150	2 T32497	hypothetical prote
18	58.5	38.2	909	1 QRXLLI	LDL receptor 2 pre
19	58	37.9	816	2 C69493	hypothetical prote
20	57.5	37.6	1291	2 T21694	hypothetical prote
21	56	36.6	972	2 A30363	glycoprotein GP330
22	56	36.6	1408	2 S16148	gene serrate prote
23	56	36.6	1650	2 S53457	dominant autoantib
24	56	36.6	4543	1 A53102	alpha-2-macroglobu
25	56	36.6	4544	1 S02392	alpha-2-macroglobu
26	56	36.6	4660	2 T42737	gp330 protein.prec
27	55	35.9	385	2 A54785	preadipocyte facto
28	55	35.9	385	2 S53718	homeotic protein d
29	54.5	35.6	176	2 T17935	hypothetical prote

30	54	35.3	862	1 QRMSLD	LDL receptor precu
31	54	35.3	1369	2 S70713	protein-tyrosine k
32	53.5	35.0	491	2 S05408	keratin, type II,
33	53	34.6	64	2 A25775	metallothionein A
34	53	34.6	64	2 A33825	metallothionein A
35	53	34.6	621	2 I38467	low density lipopr
36	53	34.6	860	1 QRHULD	LDL receptor precu
37	52.5	34.3	72	2 S39417	metallothionein 10
38	52	34.0	4545	1 S25111	alpha-2-macroglobu
39	51.5	33.7	37	2 E44007	apotoxin III - tr
40	51.5	33.7	65	2 A38739	metallothionein -
41	51.5	33.7	491	2 S52920	disintegrin (EC 3.
42	51.5	33.7	544	2 S52477	disintegrin (EC 3.
43	51.5	33.7	1172	2 A42587	thrombospondin 2 p
44	51.5	33.7	2706	2 T28155	variant-specific s
45	51	33.3	71	2 AC3461	non-essential pliu

ALIGNMENTS

RESULT 1  
JH0700  
omega-conotoxin MVIIA [validated] - cone shell (Conus magus)  
C;Species: Conus magus (magus cone)  
C;Date: 17-Apr-1993 #sequence.revision 17-Apr-1993 #text.change 15-Sep-2000  
C;Accession: JH0700; C60133; A34115  
R;Hillyard, D.R.; Monje, V.D.; Mintz, I.M.; Bean, B.P.; Nadasdi, L.; Ramachandran, J.  
Neuron 9, 69-77, 1992  
A;Title: A new conus peptide ligand for mammalian presynaptic Ca2+ channels.  
A;Reference number: JH0699; MUID:92337922; PMID:1352986  
A;Accession: JH0700  
A;Status: nucleic acid sequence not shown  
A;Molecule type: mRNA  
A;Residues: 1-25 <HIL>  
R;Olivera, B.M.; Gray, W.R.; Zeikus, R.; McIntosh, J.M.; Varga, J.; Rivier, J.; de Sa  
Science 230, 1338-1343, 1985  
A;Title: Peptide neurotoxins from fish-hunting cone snails.  
A;Reference number: A43620; MUID:86070213; PMID:4071055  
A;Accession: C60133  
A;Molecule type: protein  
A;Residues: 1-25 <OLI>  
R;Olivera, B.M.; Cruz, L.J.; de Santos, V.; LeCheminant, G.W.; Griffin, D.; Zeikus, R  
Biochemistry 26, 2086-2090, 1987  
A;Title: Neuronal calcium channel antagonists. Discrimination between calcium channel  
A;Reference number: A34115; MUID:87299637; PMID:2441741  
A;Contents: annotation  
R;Nielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik, D.J.  
Submitted to the Brookhaven Protein Data Bank, August 1996  
A;Reference number: A67648; PDB:LMVI  
A;Contents: annotation; conformation by (1)H-NMR  
R;Nielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik, D.J.  
J. Mol. Biol. 263, 297-310, 1996  
A;Title: A consensus structure for omega-conotoxins with different selectivities for  
A;Reference number: A58619; MUID:97070382; PMID:8913308  
A;Contents: annotation; conformation by (1)H-NMR  
R;Kohno, T.; Kim, J.I.; Kobayashi, K.; Kodera, Y.; Maeda, T.; Sato, K.  
Submitted to the Brookhaven Protein Data Bank, April 1995  
A;Reference number: A66296; PDB:10MG  
A;Contents: annotation; conformation by (1)H-NMR, residues 1-25  
R;Kohno, T.; Kim, J.I.; Kobayashi, K.; Kodera, Y.; Maeda, T.; Sato, K.  
Biochemistry 34, 10256-10265, 1995  
A;Title: Three-dimensional structure in solution of the calcium channel blocker omega  
A;Reference number: A58627; MUID:95367555; PMID:7640281  
A;Contents: annotation; conformation by (1)H-NMR  
C;Superfamily: omega-conotoxin  
C;Keywords: acetylcholine release inhibition; amidated carboxyl end; calcium channel  
F;1-16,8-20,15-25/Disulfide bonds: #status predicted  
F;25/Modified site: amidated carboxyl end (Cys) #status experimental  
Query Match 79.1%; Score 121; DB 2; Length 25;  
Best Local Similarity 76.0%; Pred. No. 2.6e-07;  
Matches 19; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRRIAYNCTGSCRSKGC 25  
 ||| | ||| : ||| ||| ||| |||  
 Db 1 CKGKGAKCSRLMYDCCCTGSCRSKGC 25

## RESULT 2

JH0701

omega-conotoxin MVIIB - cone shell (Conus magus)  
 C;Species: Conus magus (magus cone)  
 C;Date: 17-Apr-1993 #sequence\_revision 17-Apr-1993 #text\_change 23-May-1997  
 C;Accession: JH0701; B34115  
 R;Hillyard, D.R.; Monje, V.D.; Mintz, I.M.; Bean, B.P.; Nadasdi, L.; Ramachandran, J.; Neuron 9, 69-77, 1992  
 A;Title: A new conus peptide ligand for mammalian presynaptic Ca2+ channels.  
 A;Reference number: JH0699; MUID:92337922; PMID:1352986  
 A;Accession: JH0701  
 A;Status: nucleic acid sequence not shown  
 A;Molecule type: mRNA  
 A;Residues: 1-25 <HIL>  
 R;Olivera, B.M.; Cruz, L.J.; de Santos, V.; LeCheminant, G.W.; Griffin, D.; Zeikus, R.; Biochemistry 26, 2086-2090, 1987  
 A;Title: Neuronal calcium channel antagonists. Discrimination between calcium channel subtypes.  
 A;Reference number: A34115; MUID:87299637; PMID:2441741  
 A;Accession: B34115  
 A;Molecule type: protein  
 A;Residues: 1-25 <OLI>  
 C;Superfamily: omega-conotoxin  
 C;Keywords: acetylcholine release inhibition; amidated carboxyl end; calcium channel inhibitor; 1-16,8-20,15-25/Disulfide bonds: #status predicted  
 F;25/Modified site: amidated carboxyl end (Cys) #status predicted

Query Match 68.6%; Score 105; DB 2; Length 25;  
 Best Local Similarity 64.0%; Pred. No. 1.6e-05;  
 Matches 16; Conservative 2; Mismatches 7; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRRIAYNCTGSCRSKGC 25  
 ||| | ||| : ||| ||| ||| |||  
 Db 1 CKGKGAKCSRLMYDCCCTGSCRSKGC 25

## RESULT 3

JH0699

omega-conotoxin MVIIC precursor [validated] - cone shell (Conus magus) (fragment)  
 C;Species: Conus magus (magus cone)  
 C;Date: 17-Apr-1993 #sequence\_revision 11-Apr-1997 #text\_change 15-Sep-2000  
 C;Accession: JH0699; PC2380  
 R;Hillyard, D.R.; Monje, V.D.; Mintz, I.M.; Bean, B.P.; Nadasdi, L.; Ramachandran, J.; Neuron 9, 69-77, 1992  
 A;Title: A new conus peptide ligand for mammalian presynaptic Ca2+ channels.  
 A;Reference number: JH0699; MUID:92337922; PMID:1352986  
 A;Accession: JH0699  
 A;Molecule type: mRNA  
 A;Residues: 1-29 <HIL>  
 A;Cross-references: GB:S40826; NID:g252126; PIDN:AAB22674.1; PID:g252127  
 R;Nemoto, N.; Kubo, S.; Yoshida, T.; Chino, N.; Kimura, T.; Sakakibara, S.; Kyogoku, Y.; Biochem. Biophys. Res. Commun. 207, 695-700, 1995  
 A;Title: Solution structure of omega-conotoxin MVIIC determined by NMR.  
 A;Reference number: PC2380; MUID:95169113; PMID:7864862  
 A;Accession: PC2380  
 A;Molecule type: protein  
 A;Residues: 3-28 <NEM>  
 R;Fair-Jones, S.; Basus, V.J.  
 submitted to the Brookhaven Protein Data Bank, December 1994  
 A;Reference number: A66297; PDB:1OMN  
 A;Contents: annotation; conformation by (1)H-NMR, residues 3-28  
 R;Fair-Jones, S.; Miljanich, G.P.; Nadasdi, L.; Ramachandran, J.; Basus, V.J. J. Mol. Biol. 248, 106-124, 1995  
 A;Title: Solution structure of omega-conotoxin MVIIC, a high affinity of P-type calcium channel ligand.  
 A;Reference number: A58582; MUID:95248539; PMID:7731037  
 A;Contents: annotation; conformation by (1)H-NMR  
 C;Superfamily: omega-conotoxin  
 C;Keywords: acetylcholine release inhibition; amidated carboxyl end; calcium channel inhibitor

F;3-28/Product: omega-conotoxin MVIIC #status experimental <MAT>  
 F;3-18,10-22,17-28/Disulfide bonds: #status experimental  
 F;28/Modified site: amidated carboxyl end (Cys) (amide in mature form from following

Query Match 64.4%; Score 98.5; DB 2; Length 29;  
 Best Local Similarity 61.5%; Pred. No. 9.3e-05;  
 Matches 16; Conservative 3; Mismatches 6; Indels 1; Gaps 1;

QY 1 CKGTGKPCSRRIAYNCTGSC-RSGKC 25  
 ||| | ||| : ||| ||| ||| |||  
 Db 3 CKGKGAPCRKTMVYDCCSGSGRRGKC 28

## RESULT 4

A58537

omega-conotoxin MVIID precursor - cone shell (Conus magus) (fragment)  
 C;Species: Conus magus (magus cone)  
 C;Date: 27-Mar-1997 #sequence\_revision 11-Apr-1997 #text\_change 16-Jul-1999  
 C;Accession: A58537  
 R;Monje, V.D.; Haack, J.A.; Naisbitt, S.R.; Miljanich, G.; Ramachandran, J.; Nadasdi, L.; Neuropharmacology 32, 1141-1149, 1993  
 A;Title: A new conus peptide ligand for Ca channel subtypes.  
 A;Reference number: A58537; MUID:94150815; PMID:8107968  
 A;Accession: A58537  
 A;Molecule type: mRNA  
 A;Residues: 1-29 <MON>  
 A;Cross-references: GB:S69322; NID:g545399; PIDN:AAB29902.1; PID:g545400  
 A;Note: the predicted peptide was chemically synthesized and alternative disulfide bonds.  
 C;Superfamily: omega-conotoxin  
 C;Keywords: toxin; venom  
 F;4-29/Product: omega-conotoxin MVIID #status predicted <MAT>  
 F;4-19,11-23,18-28/Disulfide bonds: #status predicted

Query Match 61.4%; Score 94; DB 2; Length 29;  
 Best Local Similarity 52.0%; Pred. No. 0.00029;  
 Matches 13; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRRIAYNCTGSCRSKGC 25  
 ||| | ||| : ||| ||| ||| |||  
 Db 4 CQGRGASCKRTMYNCCSGSCNRGRC 28

## RESULT 5

C44379

omega-conotoxin SVIB [validated] - cone shell (Conus striatus)  
 N;Alternate names: SNX-183  
 C;Species: Conus striatus (striated cone)  
 C;Date: 31-Dec-1993 #sequence\_revision 31-Dec-1993 #text\_change 15-Sep-2000  
 C;Accession: C44379  
 R;Ramilo, C.A.; Zafaralla, G.C.; Nadasdi, L.; Hammerland, L.G.; Yoshikami, D.; Gray, B.; Biochemistry 31, 9919-9926, 1992  
 A;Title: Novel alpha- and omega-conotoxins from Conus striatus venom.  
 A;Reference number: A44379; MUID:93003172; PMID:1390774  
 A;Accession: C44379  
 A;Molecule type: protein  
 A;Residues: 1-26 <RAM>  
 A;Cross-references: CAS:143306-19-8  
 A;Experimental source: venom  
 A;Note: sequence extracted from NCBI backbone (NCBIP:116002); structure confirmed by R;Nielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik, D.J. J. Mol. Biol. 263, 297-310, 1996  
 A;Title: A consensus structure for omega-conotoxins with different selectivities for calcium channels.  
 A;Reference number: A58619; MUID:97070382; PMID:8913308  
 A;Contents: annotation; conformation by (1)H-NMR  
 C;Comment: This omega-conotoxin blocks presynaptic calcium channels.  
 C;Superfamily: omega-conotoxin  
 C;Keywords: acetylcholine release inhibition; amidated carboxyl end; calcium channel inhibitor  
 F;1-16,8-20,15-26/Disulfide bonds: #status predicted  
 F;26/Modified site: amidated carboxyl end (Cys) #status experimental



Query Match 58.5%; Score 89.5; DB 2; Length 26;  
Best Local Similarity 57.7%; Pred. No. 0.00087;  
Matches 15; Conservative 5; Mismatches 5; Indels 1; Gaps 1;

Oy 1 CKGTGKPCSRIAYNCTGSC-RSGKC 25  
||| | : ||| ||| ||| |||  
Db 1 CKLKGSCRKRTSYDCCSGSGRSGKC 26

RESULT 6

A43620

omega-conotoxin GVIIA - cone shell (Conus geographus)

N:Alternate names: shaker peptide GVIIA

C:Species: Conus geographus (geography cone)

C:Date: 11-Dec-1992 #sequence\_revision 11-Dec-1992 #text\_change 23-May-1997

C:Accession: A43620

R:Olivera, B.M.; Gray, W.R.; Zelkus, R.; McIntosh, J.M.; Varga, J.; Rivier, J.; de Santis

Science 230, 1338-1343, 1985

A:Title: Peptide neurotoxins from fish-hunting cone snails.

A:Reference number: A43620; MUID:86070213; PMID:4071055

A:Accession: A43620

A:Molecule type: protein

A:Residues: 1-29 <OLI>

C:Superfamily: omega-conotoxin

C:Keywords: acetylcholine release inhibition; calcium channel inhibitor; hydroxyproline;

F:1-16,8-19,15-26/Disulfide bonds: #status predicted

F:4,7/Modified site: 4-hydroxyproline (Pro) #status experimental

Query Match

44.1%; Score 67.5; DB 2; Length 29;

Best Local Similarity 55.6%; Pred. No. 0.26;

Matches 15; Conservative 1; Mismatches 8; Indels 3; Gaps 2;

Oy 1 CKGTGKPCSRIAYNCTGSC-RSGKC 25  
||| | ||| | : ||| ||| ||| |||  
Db 1 CKSPGTPCSRGMRDCT-SCLYSNKC 26

RESULT 7

B43620

omega-conotoxin GVIIIB - cone shell (Conus geographus)

N:Alternate names: shaker peptide GVIIIB

C:Species: Conus geographus (geography cone)

C:Date: 11-Dec-1992 #sequence\_revision 11-Dec-1992 #text\_change 23-May-1997

C:Accession: B43620

R:Olivera, B.M.; Gray, W.R.; Zelkus, R.; McIntosh, J.M.; Varga, J.; Rivier, J.; de Santis

Science 230, 1338-1343, 1985

A:Title: Peptide neurotoxins from fish-hunting cone snails.

A:Reference number: A43620; MUID:86070213; PMID:4071055

A:Accession: B43620

A:Molecule type: protein

A:Residues: 1-29 <OLI>

C:Superfamily: omega-conotoxin

C:Keywords: acetylcholine release inhibition; calcium channel inhibitor; hydroxyproline;

F:1-16,8-19,15-26/Disulfide bonds: #status predicted

F:4,7/Modified site: 4-hydroxyproline (Pro) #status experimental

Query Match

44.1%; Score 67.5; DB 2; Length 29;

Best Local Similarity 55.6%; Pred. No. 0.26;

Matches 15; Conservative 1; Mismatches 8; Indels 3; Gaps 2;

Oy 1 CKGTGKPCSRIAYNCTGSC-RSGKC 25  
||| | ||| | : ||| ||| ||| |||  
Db 1 CKSPGTPCSRGMRDCT-SCLYSNKC 26

RESULT 8

T28626

variant-specific surface protein 2 - malaria parasite (Plasmodium falciparum)

C:Species: Plasmodium falciparum

C:Date: 15-Oct-1999 #sequence\_revision 15-Oct-1999 #text\_change 09-Jun-2000

C:Accession: T28626

R:Su, X.Z.; Heatwole, V.M.; Wertheimer, S.P.; Guinet, F.; Herrfeldt, J.A.; Peterson, D.S

Cell 82, 89-100, 1995

A:Title: The large diverse gene family var encodes proteins involved in cytoadherence

A:Reference number: 220487; MUID:95330813; PMID:7606788

A:Accession: T28626

A>Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: DNA

A:Residues: 1-2664 <SUX>

A:Cross-references: EMBL:L40609; NID:g886376; PID:g886378; PIDN:AAA75398.1

C:Genetics:

A:Introns: 2197/3

A>Note: var-2

Query Match

43.1%; Score 66; DB 2; Length 2664;

Best Local Similarity 50.0%; Pred. No. 6.3;

Matches 13; Conservative 1; Mismatches 6; Indels 6; Gaps 1;

Oy 6 KPCSRIAYNCTGSCRS-----KC 25  
||| | ||| | : ||| ||| ||| |||  
Db 1805 KPSSFKINCRNGNCRSGDGTKEKC 1830

RESULT 9

NTKNG

omega-conotoxin GVIB precursor [validated] - cone shell (Conus geographus)

N:Alternate names: shaker peptide GVIB

C:Species: Conus geographus (geography cone)

C:Date: 25-Feb-1985 #sequence\_revision 23-Mar-1995 #text\_change 15-Sep-2000

C:Accession: A44006; A60133; B60133; A01785

R:Collidge, C.J.; Hunsperger, J.P.; Imperial, J.S.; Hillyard, D.R.

Toxicol 30, 1111-1116, 1992

A:Title: Precursor structure of omega-conotoxin GVIA determined from a cDNA clone.

A:Reference number: A44006; MUID:93069266; PMID:1440648

A:Accession: A44006

A:Molecule type: mRNA

A:Residues: 1-73 <COL>

A:Cross-references: GB:M84612; NID:g156520; PIDN:AAA81590.1; PID:g1070393

A:Experimental source: Venom duct

A>Note: sequence extracted from NCBI backbone (NCBIN:119531, NCBI:119532)

R:Olivera, B.M.; Gray, W.R.; Zelkus, R.; McIntosh, J.M.; Varga, J.; Rivier, J.; de Sa

Science 230, 1338-1343, 1985

A:Title: Peptide neurotoxins from fish-hunting cone snails.

A:Reference number: A43620; MUID:86070213; PMID:4071055

A:Accession: A60133

A:Molecule type: protein

A:Residues: 46-73 <OLI>

A:Accession: B60133

A:Molecule type: protein

A:Residues: 46-71 <OLI>

R:Olivera, B.M.; McIntosh, J.M.; Cruz, L.J.; Luque, F.A.; Gray, W.R.

Biochemistry 23, 5087-5090, 1984

A:Title: Purification and sequence of a presynaptic peptide toxin from Conus geograph

A:Reference number: A01785; MUID:85072796; PMID:6509012

A:Accession: A01785

A:Molecule type: protein

A:Residues: 46-72 <OLI>

R:Nishluchi, Y.; Kumagaya, K.; Noda, Y.; Watanabe, T.X.; Sakakibara, S.

Biopolymers 25, S61-S68, 1986

A:Title: Synthesis and secondary-structure determination of omega-conotoxin GVIA: a 2

A:Reference number: A49017; MUID:87049928; PMID:3779030

A:Contents: annotation

A>Note: disulfide bonds determined and confirmed by chemical synthesis

R:Davis, J.H.; Bradley, E.K.; Miljanich, G.P.; Nadasdi, L.; Ramachandran, J.; Basus,

submitted to the Brookhaven Protein Data Bank, April 1993

A:Reference number: A51894; PDB:1OMC

A:Contents: annotation; conformation by (1)H-NMR, residues 46-72

Biochemistry 32, 7396-7405, 1993

A:Title: Solution structure of omega-conotoxin GVIA using 2-D NMR spectroscopy and re

A:Reference number: A58536; MUID:93332945; PMID:8338837

A:Contents: annotation; conformation by (1)H-NMR

R:Pallaghy, P.K.; Dugan, B.M.; Pennington, M.W.; Norton, R.S.

submitted to the Brookhaven Protein Data Bank, August 1993



A:Reference number: A51089, PDB:1CCO  
A:Contents: annotation; conformation by (1)H-NMR, residues 46-72  
C:Comment: There are several types of conotoxins: alpha, acting on postsynaptic membrane  
neurotoxin.  
C:Superfamily: omega-conotoxin  
C;Keywords: acetylcholine release inhibition; amidated carboxyl end; calcium channel inh  
F;1-22/Domain: signal sequence #status predicted <SIG>  
F;23-45/Domain: propeptide #status predicted <PRO>  
F;46-73/Product: omega-conotoxin GVIB #status experimental <MAT1>  
F;46-72/Product: omega-conotoxin GVIA #status experimental <MAT2>  
F;46-71/Product: omega-conotoxin GVIC #status experimental <MAT3>  
F;46-61,53-64,60-71/Disulfide bonds: #status experimental  
F;49,55,66/Modified site: 4-hydroxyproline (Pro) #status experimental  
F;72/Modified site: amidated carboxyl end (Tyr) (amide in mature form from following gly

Query Match	40.28;	Score 61.5;	DB 1;	Length 73;
Best Local Similarity	55.08;	Pred. No. 2.2;		
Matches 11;	Conservative 1;	Mismatches 7;	Indels 1;	Gaps 1;

```

QY      1 CKGTGKPCSR1AYNCCTGSC 20
        || | || :||| ||
DB      46 CKSPGSSCSP1SYNCCR-SC 64

```

RESULT 10  
QRL11

LDL receptor 1 precursor - African clawed frog  
C/Species: Xenopus laevis (African clawed frog)  
C/Date: 31-Dec-1993 #sequence\_revision 31-Dec-1993 #text\_change 18-Sep-1998  
C/Accession: A40388  
R/Mehta, K.D.; Chen, W.J.; Goldstein, J.L.; Brown, M.S.  
J. Biol. Chem. 266, 10406-10414, 1991  
A/Title: The low density lipoprotein receptor in *Xenopus laevis*. Five domains that resemble

A;Molecule type: mRNA  
A;Residues: 1-909 <MEH>  
A;Cross-references: GB:M62976  
C;Comment: This transmembrane glycoprotein binds LDL, the major cholesterol-carrying lip  
nd complexes must first cluster into clathrin-coated pits.  
C;Superfamily: LDL receptor; EGF homology; LDL receptor ligand-binding repeat homology;  
C;Keywords: cholesterol; coated pits; duplication; endocytosis; glycoprotein; LDL; lipid  
F;1-21/Domain: signal sequence #status predicted <SIG>  
F;22-909/Product: LDL receptor #status predicted <MAT>  
F;22-836/Domain: extracellular #status predicted <EXT>  
F;27-63/Domain: LDL receptor ligand-binding repeat homology <LDL1>  
F;68-104/Domain: LDL receptor ligand-binding repeat homology <LDL2>  
F;109-143/Domain: LDL receptor ligand-binding repeat homology <LDL3>  
F;148-183/Domain: LDL receptor ligand-binding repeat homology <LDL4>  
F;195-229/Domain: LDL receptor ligand-binding repeat homology <LDL5>  
F;234-268/Domain: LDL receptor ligand-binding repeat homology <LDL6>  
F;274-311/Domain: LDL receptor ligand-binding repeat homology <LDL7>  
F;316-350/Domain: EGF homology <EG1>  
F;356-390/Domain: EGF homology <EG2>  
F;397-436/Domain: LDL receptor WYTD-containing repeat homology <YW1>  
F;437-483/Domain: LDL receptor WYTD-containing repeat homology <YW2>  
F;484-526/Domain: LDL receptor WYTD-containing repeat homology <YW3>  
F;527-570/Domain: LDL receptor WYTD-containing repeat homology <YW4>  
F;571-613/Domain: LDL receptor WYTD-containing repeat homology <YW5>  
F;614-656/Domain: LDL receptor WYTD-containing repeat homology <YW6>  
F;665-709/Domain: EGF homology <EG3>  
F;717-813/Region: clustered O-linked oligosaccharides  
F;837-858/Domain: transmembrane #status predicted <TM>  
F;859-909/Domain: intracellular #status predicted <INT>  
F;873-877/Region: coated-pit mediated internalization signal  
F;886-898/Region: basolateral targeting signal  
F;97,270,459/Binding site: carbohydrate (Asn) (covalent) #status predicted  
F;316-327,323-336,338-350,356-366,362-375,377-390,665-679,675-694,696-709/Disulfide bond

Query Match	40.28;	Score 61.5;	DB 1;	Length 909;
Best Local Similarity	40.68;	Pred. No. 10;		
Matches 13; Conservative	5;	Mismatches 7;	Indels 7;	Gaps 2;

QY 1 CKG-----TGKPCSRIAYNCCGTGSC--RSGKC 25  
1:1 | | | | : : : | | | | |

Db 183 CEGREPIKTDKPCSPLEFHCSGSGECIHMSWKC 214

RESULT 11  
S12513  
delta-conotoxin TxVIA precursor - cone shell (Conus textile)

delta conotoxin AAV-1999  
N/Alternate names: conotoxin IA; King-Kong peptide (KK-0)  
C/Species: Conus textile (cloth-of-gold cone)  
C/Date: 19-Mar-1997 #sequence-revision 11-Apr-1997 #text-change 16-Jul-1999  
C/Accession: S12513; A30103; S19553  
R/Woodward, S.R.; Cruz, L.J.; Olivera, B.M.; Hillyard, D.R.  
EMBO J. 9, 1015-1020, 1990

Query Match	39.9%	Score 61;	DB 2;	Length 78;
Best Local Similarity	45.0%;	Pred. No. 2.6;		
Matches	9;	Conservative	4;	Mismatches 7;
				Indels 0;
				Gaps 0;

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OY      1 CKGTGKPCSRIAYNCC TGC 20
         || : | : : || | | |
Db      53 CKQSGEMCNLLDQNC CDGYC 72

```

RESULT 12  
S54085  
probable membrane protein YPR064w - Yeast (*Saccharomyces cerevisiae*)  
N:Alternate names: hypothetical protein YP9499.19

C;Species: *Saccharomyces cerevisiae*  
C;Date: 08-Jul-1995 #sequence\_revision 19-Oct-1995 #text\_change 19-Apr-2002  
C;Accession: S54085  
R;Badcock, K.; Churcher, C.M.  
submitted to the EMBL Data Library, May 1995  
A;Reference number: S54059  
A;Accession: S54085  
A;Molecule type: DNA  
A;Residues: 1-139 <BAD>  
A;Cross-references: EMBL:Z49219; NID:g805025; PID:g805044; GSPDB:GN00016; MIPS:YPR064  
A;Experimental source: strain AB972

C;keywords: transmembrane protein  
F;39-55/Domain: transmembrane #status predicted <TM1>  
F;123-139/Domain: transmembrane #status predicted <TM2>



F;4092-4130/Domain: EGF homology <EGF2>  
F;4343-4386/Domain: LDL receptor YWTD-containing repeat homology <YW38>

Query Match 39.2%; Score 60; DB 1; Length 4753;  
Best Local Similarity 43.5%; Pred. No. 42;  
Matches 10; Conservative 2; Mismatches 11; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRIRAYNCCTGSCRSR 23  
| | | : | | | : | | |  
Db 3871 CGGTRRPCSESEFRNCNDGKCIPG 3893

Search completed: July 1, 2003, 10:53:26  
Job time : 8.03125 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: July 1, 2003, 10:43:27 ; Search time 6.77083 Seconds  
(without alignments)  
153.143 Million cell updates/sec

Title: US-09-910-082A-375  
Perfect score: 153  
Sequence: 1 CKGTGKPCSRIAYNCCCTGSCRSKC 25

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : SwissProt\_40:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	142	92.8	71	1 CXO3_CONST	O9XZK2 conus stria
2	121	79.1	71	1 CXOA_CONMA	P05484 conus magus
3	112	73.2	71	1 CXOA_CONCT	P58917 conus catus
4	105	68.6	25	1 CXOB_CONMA	P05485 conus magus
5	104.5	68.3	26	1 CXOC_CONCT	P58919 conus catus
6	101	66.0	25	1 CXOB_CONCT	P58918 conus catus
7	99	64.7	27	1 CXO7_CONCN	P58916 conus conso
8	98.5	64.4	29	1 CXOC_CONMA	P37300 conus magus
9	94	61.4	29	1 CXOD_CONMA	Q26350 conus magus
10	89.5	58.5	72	1 CXOB_CONCT	P28881 conus stria
11	84	54.9	73	1 CXOD_CONCT	P58920 conus catus
12	69.5	45.4	27	1 CXO6_CONMA	P58914 conus radia
13	67.5	44.1	29	1 CXO7_CONGE	P05483 conus geogr
14	62.5	40.8	26	1 CXO7_CONTE	P56714 conus texti
15	61.5	40.2	73	1 CXO6_CONGE	P01522 conus geogr
16	61.5	40.2	909	1 LDL1_XENLA	Q99087 xenopus lae
17	61	39.9	78	1 CXDA_CONTE	P18511 conus texti
18	60	39.2	27	1 CXDB_CONTE	P24159 conus texti
19	60	39.2	72	1 CXOA_CONST	P28880 conus stria
20	60	39.2	4753	1 LRP_CAEEL	Q04833 caenorhabdi
21	59.5	38.9	26	1 CXO6_CONCT	P58915 conus tulip
22	59.5	38.9	52	1 CTL2_NPYOP	O10286 orgyia pseu
23	59	38.6	72	1 CXO2_CONST	Q9XZ15 conus stria
24	58.5	38.2	892	1 LDL2_XENLA	Q99088 xenopus lae
25	58	37.9	72	1 CXO1_CONST	Q9XZ14 conus stria
26	57.5	37.6	1291	1 YC81_CAEEL	O19981 caenorhabdi
27	56.5	36.9	37	1 TXOF_HADVE	P81599 hadronycha
28	56	36.6	1408	1 SERR_DROME	P18168 drosophila
29	56	36.6	4543	1 LRP1_CHICK	P98157 gallus gall
30	56	36.6	4544	1 LRP1_HUMAN	O07954 homo sapien
31	56	36.6	4660	1 LRP2_RAT	P98158 rattus norv
32	55	35.9	385	1 DLK_MOUSE	Q09163 mus musculu
33	54	35.3	864	1 LDLR_MOUSE	P35951 mus musculu

34	53.5	35.0	491	1 K2M2_SHEEP	P15241 ovls arles
35	53	34.6	64	1 MTA_STRPU	P04734 strongyloce
36	53	34.6	860	1 LDLR_HUMAN	P01130 homo sapien
37	53	34.6	4655	1 LRP2_HUMAN	P98164 homo sapien
38	52.5	34.3	72	1 MT12_MYTED	P80247 mytilus edu
39	52	34.0	245	1 CRS3_HORSE	O19010 equus cabal
40	51.5	33.7	37	1 TXP3_APTSC	P49268 aptostichus
41	51.5	33.7	65	1 MTB_STRPU	Q27287 strongyloce
42	51.5	33.7	1172	1 TSP2_MOUSE	Q03350 mus musculu
43	51	33.3	77	1 CXK1_CONTE	P18512 conus texti
44	51	33.3	212	1 AG1_HORVU	P15312 hordeum vul
45	51	33.3	615	1 FA12_HUMAN	P00748 homo sapien

ALIGNMENTS

RESULT 1					
ID	CXO3_CONST	STANDARD;	PRT;	71 AA.	
AC	O9XZK2;				
DT	16-OCT-2001 (Rel. 40, Created)				
DT	16-OCT-2001 (Rel. 40, Last sequence update)				
DT	15-JUN-2002 (Rel. 41, Last annotation update)				
DE	Omega-type conotoxin SO3 precursor.				
GN	SO3.				
OS	Conus striatus (Striated cone).				
OC	Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;				
OC	Neogastropoda; Conoidea; Conidae; Conus.				
OX	NCBI_TaxID=6493;				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RC	TISSUE-Venom duct;				
RX	MEDLINE=20037955; PubMed=10573284;				
RA	Lu B.-S., Yu F., Zhao D., Huang P.-T., Huang C.-F.;				
RT	"Conopeptides from Conus striatus and Conus textile by cDNA cloning."				
RL	Peptides 20:1139-1144(1999).				
CC	-1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind and block voltage-sensitive calcium channels (VSCC) (By similarity).				
CC	-1- SUBCELLULAR LOCATION: Secreted (By similarity).				
CC	-1- TISSUE SPECIFICITY: Expressed by the venom duct.				
CC	-1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE FAMILY.				
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <a href="http://www.isb-sib.ch/announce/">http://www.isb-sib.ch/announce/</a> or send an email to <a href="mailto:license@isb-sib.ch">license@isb-sib.ch</a> ).				
CC	-----				
DR	EMBL; AF146348; AAD31908.1; -				
DR	HSSP; P05484; LMVI.				
DR	InterPro; IPR004214; Conotoxin.				
DR	Pfam; PF02950; Conotoxin; 1.				
KW	Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor; signal; Amidation.				
KW	signal; Amidation.				
FT	SIGNAL	1	22	POTENTIAL.	
FT	PROPEP	23	44	POTENTIAL.	
FT	PEPTIDE	45	70	OMEGA-TYPE CONOTOXIN SO3.	
FT	DISULFID	46	61	BY SIMILARITY.	
FT	DISULFID	53	65	BY SIMILARITY.	
FT	DISULFID	60	70	BY SIMILARITY.	
FT	MOD_RES	70	70	AMIDATION (G-71 PROVIDE AMIDE GROUP) (POTENTIAL).	
SO	SEQUENCE	71 AA;	7628 MW;	CE7070DCBF3094D73 CRC64;	
Query Match					
Best Local Similarity 92.8%; Score 142; DB 1; Length 71;					
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;					







AC P58917;  
DT 15-JUN-2002 (Rel. 41, Created)  
DT 15-JUN-2002 (Rel. 41, Last sequence update)  
DT 15-JUN-2002 (Rel. 41, Last annotation update)  
DE Omega-conotoxin CV1A precursor.  
OS Conus catus (Cat cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;  
RN [1]  
RP SEQUENCE FROM N.A., SEQUENCE OF 46-70, AND SYNTHESIS.  
RC TISSUE-Venom duct, and Venom;  
RX PubMed=10938268;  
RA Lewis R.J., Nielsen K.J., Craik D.J., Loughnan M.L., Adams D.A.,  
RA Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L., Jones A.,  
RA Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.;  
RT "Novel omega-conotoxins from Conus catus discriminate among neuronal  
calcium channel subtypes.";  
RL J. Biol. Chem. 275:35335-35344(2000).  
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind  
and block voltage-sensitive calcium channels (VSCC) (By  
similarity). This toxin blocks N-type calcium channels.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.  
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE  
FAMILY.  
KW Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;  
KW Amidation; Signal.  
FT SIGNAL 1 22 POTENTIAL.  
FT PROPEP 23 45  
FT PEPTIDE 46 70 OMEGA-CONOTOXIN CV1A.  
FT DISULFID 46 61 BY SIMILARITY.  
FT DISULFID 53 65 BY SIMILARITY.  
FT DISULFID 60 70 BY SIMILARITY.  
FT MOD\_RES 70 70 AMIDATION (G-71 PROVIDE AMIDE GROUP).  
SQ SEQUENCE 71 AA; 7665 MW; B99D9C7C74996D01 CRC64;  
  
Query Match 73.2%; Score 112; DB 1; Length 71;  
Best Local Similarity 68.0%; Pred. NO. 2.7e-07;  
Matches 17; Conservative 3; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 CKGTGKPCSRIVNCTGSCRSKGC 25  
DB 46 CKSTGASCRTSYDCTGSCRSKGC 70  
  
RESULT 4  
CXOB\_CONMA STANDARD; PRT; 25 AA.  
ID CXOB\_CONMA STANDARD; PRT; 25 AA.  
AC P05485;  
DT 01-NOV-1988 (Rel. 09, Created)  
DT 01-NOV-1988 (Rel. 09, Last sequence update)  
DT 15-JUN-2002 (Rel. 41, Last annotation update)  
DE Omega-conotoxin MVIIB (SNX-159).  
OS Conus magus (Magus cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=6492;  
RN [1]  
RP SEQUENCE.  
RX MEDLINE=87299637; PubMed=2441741;  
RA Olivera B.M., Cruz L.J., de Santos V., Lecheminant G.W., Griffin D.,  
RA Zeikus R.D., McIntosh J.M., Galyean R., Varga J., Gray W.R.,  
RA Rivier J.E.;  
RT "Neuronal calcium channel antagonists. Discrimination between calcium  
channel subtypes using omega-conotoxin from Conus magus venom.";  
RL Biochemistry 26:2086-2090(1987).  
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind  
and block voltage-sensitive calcium channels (VSCC).  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.  
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE  
FAMILY.

DR PIR; B34115; B34115.  
DR PIR; JH0701; JH0701.  
DR HSSP; P05484; LMVI.  
KW Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;  
KW Amidation.  
FT DISULFID 1 16  
FT DISULFID 8 20  
FT DISULFID 15 25  
FT MOD\_RES 25 25 AMIDATION.  
SQ SEQUENCE 25 AA; 2626 MW; E4B9CE5EFAA3734D CRC64;  
  
Query Match 68.6%; Score 105; DB 1; Length 25;  
Best Local Similarity 64.0%; Pred. NO. 8.4e-07;  
Matches 16; Conservative 2; Mismatches 7; Indels 0; Gaps 0;  
  
QY 1 CKGTGKPCSRIVNCTGSCRSKGC 25  
DB 1 CKGKGASCHRTSYDCTGSCNRKGC 25  
  
RESULT 5  
CXOC\_CONCT STANDARD; PRT; 26 AA.  
ID CXOC\_CONCT STANDARD; PRT; 26 AA.  
AC P58919;  
DT 15-JUN-2002 (Rel. 41, Created)  
DT 15-JUN-2002 (Rel. 41, Last sequence update)  
DT 15-JUN-2002 (Rel. 41, Last annotation update)  
DE Omega-conotoxin CV1C.  
OS Conus catus (Cat cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;  
RN [1]  
RP SEQUENCE, AND SYNTHESIS.  
RC TISSUE-Venom;  
RX PubMed=10938268;  
RA Lewis R.J., Nielsen K.J., Craik D.J., Loughnan M.L., Adams D.A.,  
RA Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L., Jones A.,  
RA Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.;  
RT "Novel omega-conotoxins from Conus catus discriminate among neuronal  
calcium channel subtypes.";  
RL J. Biol. Chem. 275:35335-35344(2000).  
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind  
and block voltage-sensitive calcium channels (VSCC) (By  
similarity). This toxin blocks N-, P-, and Q-type calcium  
channels.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.  
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE  
FAMILY.  
KW Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;  
KW Amidation.  
FT DISULFID 1 16 BY SIMILARITY.  
FT DISULFID 8 20 BY SIMILARITY.  
FT DISULFID 15 26 BY SIMILARITY.  
FT MOD\_RES 26 26 AMIDATION.  
SQ SEQUENCE 26 AA; 2790 MW; 56EFC382335C4A8B CRC64;  
  
Query Match 68.3%; Score 104.5; DB 1; Length 26;  
Best Local Similarity 65.4%; Pred. NO. 9.9e-07;  
Matches 17; Conservative 4; Mismatches 4; Indels 1; Gaps 1;  
  
QY 1 CKGTGKPCSRIVNCTGSC-RSGKC 25  
DB 1 CKGKGQSCSKLWYDCTGSCSRKGC 26  
  
RESULT 6  
CXOB\_CONCT STANDARD; PRT; 25 AA.  
ID CXOB\_CONCT STANDARD; PRT; 25 AA.  
AC P58918;  
DT 15-JUN-2002 (Rel. 41, Created)  
DT 15-JUN-2002 (Rel. 41, Last sequence update)

DT 15-JUN-2002 (Rel. 41, last annotation update)  
DE Omega-conotoxin CVIB.  
OS Conus catus (Cat cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;  
RN [1]  
RP SEQUENCE, AND SYNTHESIS.  
RC TISSUE=Venom;  
RX PubMed=10938268;  
RA Lewis R.J., Nielsen K.J., Craik D.J., Loughnan M.L., Adams D.A.,  
RA Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L., Jones A.,  
RA Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.;  
RT "Novel omega-conotoxins from Conus catus discriminate among neuronal  
calcium channel subtypes.";  
RL J. Biol. Chem. 275:35335-35344(2000).  
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind  
and block voltage-sensitive calcium channels (VSCC) (By  
similarity). This toxin blocks N-, P-, and Q-type calcium  
channels.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.  
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE  
FAMILY.  
KW Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;  
KW Amidation.  
FT DISULFID 1 16 BY SIMILARITY.  
FT DISULFID 8 20 BY SIMILARITY.  
FT DISULFID 15 25 BY SIMILARITY.  
FT MOD\_RES 25 25 AMIDATION.  
SQ SEQUENCE 25 AA; 2717 MW; D41A9E5F5AFA9552 CRC64;  
  
Query Match 66.0%; Score 101; DB 1; Length 25;  
Best Local Similarity 60.0%; Pred. No. 2.5e-06;  
Matches 15; Conservative 3; Mismatches 7; Indels 0; Gaps 0;  
  
OY 1 CKGTGKPCSRIRAYNCCCTGSCRSKGC 25  
||| | | : | : | | | | | : |  
Db 1 CKKGASCRKTMVDCRCGRSGRC 25  
  
RESULT 7  
CXO7\_CONCN STANDARD; PRT; 27 AA.  
AC P58916;  
DT 15-JUN-2002 (Rel. 41, Created)  
DT 15-JUN-2002 (Rel. 41, last sequence update)  
DT 15-JUN-2002 (Rel. 41, last annotation update)  
DE Omega-conotoxin CNVIIA.  
OS Conus consors (Singed cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101297;  
RN [1]  
RP SEQUENCE, SYNTHESIS, AND MASS SPECTROMETRY.  
RC TISSUE=Venom;  
RX PubMed=11724570;  
RA Favreau P., Gilles N., Lamthanh H., Bournaud R., Shimahara T.,  
RA Bouet F., Laboute P., Letourneux Y., Menez A., Molgo J., Le Gall F.;  
RT "A new omega-conotoxin that targets N-type voltage-sensitive calcium  
channels with unusual specificity.";  
RL Biochemistry 40:14567-14575(2001).  
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind  
and block voltage-sensitive calcium channels (VSCC). This toxin  
blocks N-type calcium channels, but unexpectedly, does not show  
any blocking activity at amphibian neuromuscular junction. Causes  
shaking activity, and, at higher doses, causes mild tremors when  
injected intracerebroventricularly into mice. Causes paralysis,  
and, at higher doses, causes death when injected intramuscularly  
into fish.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.  
CC -1- MASS SPECTROMETRY: MW=2847.74; METHOD=Electrospray.

CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE  
FAMILY.  
KW Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;  
KW Hydroxylation; Amidation.  
FT BINDING 13 13 ESSENTIAL FOR CALCIUM CHANNEL BINDING (BY  
SIMILARITY).  
FT DISULFID 1 16 BY SIMILARITY.  
FT DISULFID 8 20 BY SIMILARITY.  
FT DISULFID 15 27 BY SIMILARITY.  
FT MOD\_RES 7 7 HYDROXYLATION.  
FT MOD\_RES 27 27 AMIDATION.  
SQ SEQUENCE 27 AA; 2839 MW; B9DEFD1491F2CB4A CRC64;  
  
Query Match 64.7%; Score 99; DB 1; Length 27;  
Best Local Similarity 59.3%; Pred. No. 4.6e-06;  
Matches 16; Conservative 4; Mismatches 5; Indels 2; Gaps 1;  
  
OY 1 CKGTGKPCSRIRAYNCCCTGSCRS--GKC 25  
||| | | : | : | | | | | : |  
Db 1 CKKGAPCTRLMYDCCHGSCSSKGRGRC 27  
  
RESULT 8  
CXOC\_CONMA STANDARD; PRT; 29 AA.  
ID CXOC\_CONMA  
AC P37300;  
DT 01-OCT-1994 (Rel. 30, Created)  
DT 01-OCT-1994 (Rel. 30, last sequence update)  
DT 15-JUN-2002 (Rel. 41, last annotation update)  
DE Omega-conotoxin MVIIC precursor (SNX-230) (Fragment).  
OS Conus magus (Magus cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=6492;  
RN [1]  
RP SEQUENCE FROM N.A., AND SYNTHESIS.  
RX MEDLINE=92337922; PubMed=1352986;  
RA Hillyard D.R., Monje V.D., Mintz I.M., Bean B.P., Nadasdi L.,  
RA Ramachandran J., Miljanich G.P., Azimi-Zoonooz A., McIntosh J.M.,  
RA Cruz L.J., Imperial J.S., Olivera B.M.;  
RT "A new Conus peptide ligand for mammalian presynaptic Ca2+ channels.";  
RL Neuron 9:69-77(1992).  
RN [2]  
RP STRUCTURE BY NMR.  
RX MEDLINE=95248539; PubMed=7731037;  
RA Farr-Jones S., Miljanich G.P., Nadasdi L., Ramachandran J.,  
RA Basus V.J.;  
RT "Solution structure of omega-conotoxin MVIIC, a high affinity ligand  
of P-type calcium channels, using 1H NMR spectroscopy and complete  
relaxation matrix analysis.";  
RL J. Mol. Biol. 248:106-124(1995).  
RN [3]  
RP STRUCTURE BY NMR.  
RX PubMed=10373375;  
RA Nielsen K.J., Adams D., Thomas L., Bond T., Alewood P.F., Craik D.J.,  
RA Lewis R.J.;  
RT "Structure-activity relationships of omega-conotoxins MVIIA, MVIIC and  
14 loop splice hybrids at N and P/Q-type calcium channels.";  
RL J. Mol. Biol. 289:1405-1421(1999).  
RN [4]  
RP MUTAGENESIS OF TYR-15.  
RX PubMed=7677735;  
RA Kim J.I., Takahashi M., Martin-Moutot N., Seagar M.J., Ohtake A.,  
RA Sato K.;  
RT "Tyrl3 is essential for the binding of omega-conotoxin MVIIC to the  
P/Q-type calcium channel.";  
RL Biochem. Biophys. Res. Commun. 214:305-309(1995).  
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind  
and block voltage-sensitive calcium channels (VSCC). This toxin  
blocks N-type calcium channels as well as types of high-threshold  
voltage-gated calcium channels resistant to both dihydropyridines  
and omega-conotoxin GVIA.  
CC -1- SUBCELLULAR LOCATION: Secreted.

```
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE
CC FAMILY.
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DR EMBL: S40826; AAB22674.1; -.

DR PIR: JH0699; JH0699.

DR PDB: 1OMN; 01-DEC-95.

DR PDB: 1CNN; 31-MAY-00.

KW Presynaptic neurotoxin; Toxin; Calcium channel inhibitor;

KM Hydroxylation; Amidation; 3D-structure.

FT NON\_TER 1 1

FT PROPEP <1 2

FT PEPTIDE 3 28 OMEGA-CONOTOXIN MVIIC.

FT BINDING 15 15 ESSENTIAL FOR CALCIUM CHANNEL BINDING.

FT DISULFID 3 18

FT DISULFID 10 22

FT DISULFID 17 28

FT MOD\_RES 9 9 HYDROXYLATION (PROBABLE).

FT MOD\_RES 28 28 AMIDATION (G-29 PROVIDE AMIDE GROUP).

FT MOTAGEN 15 15 Y->A: HIGH DECREASE IN BINDING.

SO SEQUENCE 29 AA; 3071 MW; AC7A68948474728A CRC64;

Query Match 64.4%; Score 98.5; DB 1; Length 29;

Best Local Similarity 61.5%; Pred. No. 5.6e-06;

Matches 16; Conservative 3; Mismatches 6; Indels 1; Gaps 1;

QY 1 CKGTGKPCSRIVNCTGSGC-RSGKC 25  
| | | | | : | : | : | | | | | | | |

Db 3 CKKGAPCRKTMWDCCSGCGRRGKC 28

RESULT 9

CXOD\_CONMA STANDARD; PRT; 29 AA.

AC 026350;

DT 15-DEC-1998 (Rel. 37, Created)

DT 15-DEC-1998 (Rel. 37, Last sequence update)

DT 15-JUN-2002 (Rel. 41, Last annotation update)

DE Omega-conotoxin MVIID precursor (SNX-238) (Fragment).

OS Conus magus (Magus cone).

OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;

OC Neogastropoda; Conoidea; Conidae; Conus.

OX NCBI\_TaxID=6492;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=94150815; PubMed=8107968;

RA Monje V.D., Haack J.A., Naisbitt S.R., Miljanich G., Ramachandran J.,

RA Nadasdi L., Olivera B.M., Hillyard D.R., Gray W.R.;

RT "A new Conus peptide ligand for Ca channel subtypes.";

RL Neuropharmacology 32:1141-1149(1993).

RN [2]

RP STRUCTURE BY NMR.

RX PubMed=9920728;

RA Clivera C., Vazquez A., Sevilla J.M., Bruix M., Gago F., Garcia A.G.,

RA Sevilla P.;

RT "Solution structure determination by two-dimensional 1H NMR of

RT omega-conotoxin MVIID, a calcium channel blocker peptide.";

RL Biochem. Biophys. Res. Commun. 254:32-35(1999).

CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind

CC and block voltage-sensitive calcium channels (VSCC). This toxin

CC blocks channels of the N-type as well as other types.

CC -1- SUBCELLULAR LOCATION: Secreted.

CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.

CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE

CC FAMILY.

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DR EMBL: S69322; AAB29902.1; -.

DR HSSP: P05484; 1MVI.

KW Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;

KM Amidation.

FT NON\_TER 1 1

FT PROPEP <1 3

FT PEPTIDE 4 28 OMEGA-CONOTOXIN MVIID.

FT DISULFID 4 19

FT DISULFID 11 23

FT DISULFID 18 28

FT MOD\_RES 28 28

SO SEQUENCE 29 AA; 3104 MW; 9E04B2EA3779CB22 CRC64;

Query Match 61.4%; Score 94; DB 1; Length 29;

Best Local Similarity 52.0%; Pred. No. 1.9e-05;

Matches 13; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRIVNCTGSGC-RSGKC 25  
| | | | | : | | | | | | | | | | |

Db 4 CQGRGASCRKTMVNCSSGSCNRGRC 28

RESULT 10

CXOB\_CONST STANDARD; PRT; 72 AA.

AC P28881; Q9UB25;

DT 01-DEC-1992 (Rel. 24, Created)

DT 16-OCT-2001 (Rel. 40, Last sequence update)

DT 15-JUN-2002 (Rel. 41, Last annotation update)

DE Omega-conotoxin SVIB precursor (SNX-183).

OS Conus striatus (Striated cone).

OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;

OC Neogastropoda; Conoidea; Conidae; Conus.

OX NCBI\_TaxID=6493;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE-Venom duct;

RX MEDLINE=20037955; PubMed=10573284;

RA Lu B.-S., Yu F., Zhao D., Huang P.-T., Huang C.-F.;

RT "Conopeptides from Conus striatus and Conus textile by cDNA

RT cloning.";

RL Peptides 20:1139-1144(1999).

RN [2]

RP SEQUENCE OF 46-71, AND SYNTHESIS.

RC TISSUE-Venom;

RX MEDLINE=93003172; PubMed=1390774;

RA Ramilo C., Zafaralla G.C., Nadasdi L., Hammerland L.G., Yoshikami D.,

RA Gray W.R., Kristipati R., Ramachandran J., Miljanich G., Olivera B.M.,

RA Cruz L.J.;

RT "Novel alpha- and omega-conotoxins from Conus striatus venom.";

RL Biochemistry 31:9919-9926(1992).

RN [3]

RP STRUCTURE BY NMR.

RX MEDLINE=97070382; PubMed=8913308;

RA Nielsen K.J., Thomas L., Lewis R.J., Alewood P.F., Craik D.J.;

RT "A consensus structure for omega-conotoxins with different

RT selectivities for voltage-sensitive calcium channel subtypes:

RT comparison of MVIID, SVIB and SNX-202.";

RL J. Mol. Biol. 263:297-310(1996).

CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind

CC and block voltage-sensitive calcium channels (VSCC). This toxin

CC blocks N-, P-, and Q-type calcium channels.

CC -1- SUBCELLULAR LOCATION: Secreted.

CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.

CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE  
CC FAMILY.  
CC -----  
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CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
CC -----  
DR EMBL: AF146346; AAD31906.1; -  
DR PIR: C44379; C44379.  
DR PDB: 1MVJ; 12-AUG-97.  
DR InterPro: IPR004214; Conotoxin.  
DR Pfam: PF02950; Conotoxin; 1.  
KW Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;  
KW Amidation; Signal; 3D-structure.  
FT SIGNAL 1 22 POTENTIAL.  
FT PROPEP 23 45  
FT PEPTIDE 46 71 OMEGA-CONOTOXIN SVIB.  
FT DISULFID 46 61  
FT DISULFID 53 65  
FT DISULFID 60 71  
FT MOD\_RES 71 71  
SQ SEQUENCE 72 AA; 7741 MW; 1F753546AAD39908 CRC64;  
Query Match 58.5%; Score 89.5; DB 1; Length 72;  
Best Local Similarity 57.7%; Pred. No. 0.00013;  
Matches 15; Conservative 5; Mismatches 5; Indels 1; Gaps 1;  
QY 1 CKGTGKPCSRIRAYNCTGSGC-RSGKC 25  
DB 46 CKIKGQSCRKRTSYDCCSGSGCRSGKC 71  
RESULT 11  
CXOD\_CONCT STANDARD; PRT; 73 AA.  
ID CXOD\_CONCT  
AC P58920;  
DT 15-JUN-2002 (Rel. 41, Created)  
DT 15-JUN-2002 (Rel. 41, Last sequence update)  
DT 15-JUN-2002 (Rel. 41, Last annotation update)  
DE Omega-conotoxin CVID precursor.  
OS Conus catus (Cat cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;  
RN [1]  
RP SEQUENCE FROM N.A., SEQUENCE OF 46-72, SYNTHESIS, AND STRUCTURE BY  
RP NMR.  
RX TISSUE=Venom duct, and Venom;  
RX PubMed=10938268;  
RA Lewis R.J., Nielsen K.J., Craik D.J., Loughnan M.L., Adams D.A.,  
RA Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L., Jones A.,  
RA Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.;  
RT "Novel omega-conotoxins from Conus catus discriminate among neuronal  
RT calcium channel subtypes."  
RL J. Biol. Chem. 275:35335-35344(2000).  
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind  
CC and block voltage-sensitive calcium channels (VSCC) (By  
CC similarity). This toxin blocks N-type calcium channels.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.  
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE  
CC FAMILY.  
CC Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;  
KW Amidation; Signal.  
FT SIGNAL 1 22 POTENTIAL.  
FT PROPEP 23 45  
FT PEPTIDE 46 72 OMEGA-CONOTOXIN CVID.  
FT DISULFID 46 61  
FT DISULFID 53 65 BY SIMILARITY.  
FT DISULFID 60 71 BY SIMILARITY.

FT DISULFID 60 72 BY SIMILARITY.  
FT MOD\_RES 72 72  
SQ SEQUENCE 73 AA; 7748 MW; C4CEBD30C77DAEC3 CRC64;  
Query Match 54.9%; Score 84; DB 1; Length 73;  
Best Local Similarity 48.1%; Pred. No. 0.0006;  
Matches 13; Conservative 5; Mismatches 7; Indels 2; Gaps 1;  
QY 1 CKGTGKPCSRIRAYNCTGSGCS--GKC 25  
DB 46 CKSKGAKCSKLMYDCCSGSGSGTVGRC 72  
RESULT 12  
CXO6\_CONRA STANDARD; PRT; 27 AA.  
ID CXO6\_CONRA  
AC P58914;  
DT 15-JUN-2002 (Rel. 41, Created)  
DT 15-JUN-2002 (Rel. 41, Last sequence update)  
DT 15-JUN-2002 (Rel. 41, Last annotation update)  
DE Omega-conotoxin RVIA.  
OS Conus radiatus (Rayed cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=61198;  
RN [1]  
RP SEQUENCE.  
RP Miljanich G.P., Bitner R.S., Bowersox S.S., Fox J.A., Valentino K.L.,  
RA Yamashiro D.H.;  
RA "Method of treating ischemia-related neuronal damage."  
RT Patent number US5051403, 24-SEP-1991.  
RL  
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind  
CC and block voltage-sensitive calcium channels (VSCC).  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.  
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE  
CC FAMILY.  
KW Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;  
KW Hydroxylation.  
FT DISULFID 1 16  
FT DISULFID 8 19  
FT DISULFID 15 26  
FT MOD\_RES 4 4  
FT MOD\_RES 7 7  
SQ SEQUENCE 27 AA; 2887 MW; F554C1F8A01A88AF CRC64;  
Query Match 45.4%; Score 69.5; DB 1; Length 27;  
Best Local Similarity 51.9%; Pred. No. 0.015;  
Matches 14; Conservative 3; Mismatches 7; Indels 3; Gaps 2;  
QY 1 CKGTGKPCSRIRAYNCTGSGCS--GKC 25  
DB 1 CKPPGSPCRVSSYNCCS-SCKSYNKKC 26  
RESULT 13  
CXO7\_CONGE STANDARD; PRT; 29 AA.  
ID CXO7\_CONGE  
AC P05483;  
DT 01-NOV-1988 (Rel. 09, Created)  
DT 01-NOV-1988 (Rel. 09, Last sequence update)  
DT 15-JUN-2002 (Rel. 41, Last annotation update)  
DE Omega-conotoxins GVIIA/GVIIB (SNX-178).  
OS Conus geographus (Geography cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=6491;  
RN [1]  
RP SEQUENCE.  
RX MEDLINE=86070213; PubMed=4071055;  
RX Olivera B.M., Gray W.R., Zeikus R.D., McIntosh J.M., Varga J.,  
RA Rivier J.E., de Santos V., Cruz L.J.;  
RT "Peptide neurotoxins from fish-hunting cone snails."



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RL Science 230:1338-1343(1985).
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind
CC and block voltage-sensitive calcium channels (VSCC).
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.
CC -1- MISCELLANEOUS: THE SEQUENCE SHOWN IS THAT OF CONOTOXIN GVIIA.
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE
CC FAMILY.
DR PIR; A43620; A43620.
DR PIR; B43620; B43620.
KM Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;
KW Hydroxylation.
FT MOD_RES 4 4 HYDROXYLATION.
FT MOD_RES 7 7 HYDROXYLATION.
FT DISULFID 1 16
FT DISULFID 8 19
FT DISULFID 15 26
FT VARIANT 21 21 L -> S (IN GVIIIB).
SQ SEQUENCE 29 AA; 3290 MW; 57307C69583FB1E7 CRC64;

Query Match 44.1%; Score 67.5; DB 1; Length 29;
Best Local Similarity 55.6%; Pred. No. 0.028;
Matches 15; Conservative 1; Mismatches 8; Indels 3; Gaps 2;

OY 1 CKGTGKPCSRIRAYNCTGSC--RSGKC 25
   || ||||| :||| | | |
Db 1 CKSPGTPCSRGRMDCT-SCLLYSNKC 26

RESULT 14
CXO7_CONTE
ID CXO7_CONTE STANDARD; PRT; 26 AA.
AC P56714;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Omega-conotoxin TxvII.
OS Conus textile (Cloth-of-gold cone).
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID=6494;
RN [1]
RP SEQUENCE.
RC TISSUE-Venom;
RX MEDLINE=96266175; PubMed=8679638;
RA Fainzilber M., Lodder J.C., van der Schors R.C., Li K.W., Yu Z.,
RA Burlingame A.L., Geraerts W.P.M., Rits K.S.;
RT "A novel hydrophobic omega-conotoxin blocks molluscan dihydropyridine-
RT sensitive calcium channels.";
RL Biochemistry 35:8748-8752(1996).
RN [2]
RP STRUCTURE BY NMR.
RX MEDLINE=20552922; PubMed=11101291;
RA Kobayashi K., Sasaki T., Sato K., Kohno T.;
RT "Three-dimensional solution structure of omega-conotoxin TxvII, an
RT L-type calcium channel blocker.";
RL Biochemistry 39:14761-14767(2000).
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind
CC and block voltage-sensitive calcium channels (VSCC). Specifically
CC acts on L-type channels. It blocks molluscan dihydropyridine-
CC sensitive calcium channels.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.
CC -1- MASS SPECTROMETRY: MW=2832.23; METHOD=Electrospray.
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE
CC FAMILY.
DR PDB; 1F3K; 13-DEC-00.
KW Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;
KW 3D-structure.
FT DISULFID 1 16
FT DISULFID 8 20
FT DISULFID 15 24
SQ SEQUENCE 26 AA; 2840 MW; 3AFE21698666294 CRC64;
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Query Match 40.8%; Score 62.5; DB 1; Length 26;
Best Local Similarity 44.0%; Pred. No. 0.1;
Matches 11; Conservative 3; Mismatches 10; Indels 1; Gaps 1;

OY 1 CKGTGKPCSRIRAYNCTGSCRSKC 25
   || :||| | | |
Db 1 CKQADEPCVFSLDCTGIC-LGVC 24

RESULT 15
CXO6_CONGE
ID CXO6_CONGE STANDARD; PRT; 73 AA.
AC P01522;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Omega-conotoxin GVIA precursor (Shaker peptide) (SNX-124) [Contains:
DE Omega-conotoxin GVIB; Omega-conotoxin GVIC].
OS Conus geographus (Geography cone).
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID=6491;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=93069266; PubMed=1440648;
RA Colledge C.J., Hunsperger J.P., Imperial J.S., Hillyard D.R.;
RT "Precursor structure of omega-conotoxin GVIA determined from a cDNA
RT clone.";
RL Toxicon 30:1111-1116(1992).
RN [2]
RP SEQUENCE OF 46-73.
RX MEDLINE=85072796; PubMed=6509012;
RA Olivera B.M., McIntosh J.M., Cruz L.J., Luque F.A., Gray W.R.;
RT "Purification and sequence of a presynaptic peptide toxin from Conus
RT geographus venom.";
RL Biochemistry 23:5087-5090(1984).
RN [3]
RP STRUCTURE BY NMR OF GVIA.
RX MEDLINE=94047089; PubMed=8230223;
RA Pallaghy P.K., Dugan B.M., Pennington M.W., Norton R.S.;
RT "Three-dimensional structure in solution of the calcium channel
RT blocker omega-conotoxin.";
RL J. Mol. Biol. 234:405-420(1993).
RN [4]
RP STRUCTURE BY NMR OF GVIA.
RX MEDLINE=93332945; PubMed=8338837;
RA Davis J.H., Bradley E.K., Miljanich G.P., Nadasdi L.,
RA Ramachandran J., Basus V.J.;
RT "Solution structure of omega-conotoxin GVIA using 2-D NMR
RT spectroscopy and relaxation matrix analysis.";
RL Biochemistry 32:7396-7405(1993).
RN [5]
RP STRUCTURE BY NMR OF GVIA.
RX MEDLINE=99248506; PubMed=10231724;
RA Pallaghy P.K., Norton R.S.;
RT "Refined solution structure of omega-conotoxin GVIA: Implications for
RT calcium channel binding.";
RL J. Pept. Res. 53:343-351(1999).
CC -1- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind
CC and block voltage-sensitive calcium channels (VSCC).
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: Expressed by the venom duct.
CC -1- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE
CC FAMILY.
-----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC or send an email to license@isb-sib.ch).
```



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CC -----
DR EMBL; M84612; AAA81590.1; -.
DR PIR; A60133; NTKNGG.
DR PIR; A44006; A44006.
DR PDB; 2CCO; 15-JUL-98.
DR PDB; 1OMC; 31-JAN-94.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
DR Presynaptic neurotoxin; Neurotoxin; Calcium channel inhibitor;
KW Hydroxylation; Amidation; Signal; 3D-structure.
KW Hydroxylation; Amidation; Signal; 3D-structure.
FT SIGNAL 1 22 POTENTIAL.
FT PROPEP 23 45
FT PEPTIDE 46 73 OMEGA-CONOTOXIN GVIB.
FT PEPTIDE 46 72 OMEGA-CONOTOXIN GVIA.
FT PEPTIDE 46 71 OMEGA-CONOTOXIN GVIC.
FT MOD_RES 49 49 HYDROXYLATION.
FT MOD_RES 55 55 HYDROXYLATION.
FT MOD_RES 66 66 HYDROXYLATION.
FT MOD_RES 72 72 AMIDATION (G-73 PROVIDE AMIDE GROUP) (IN
FT MOD_RES 72 72 GVIA).
FT DISULFID 46 61
FT DISULFID 53 64
FT DISULFID 60 71
FT STRAND 47 47
FT TURN 49 50
FT STRAND 52 52
FT TURN 55 58
FT STRAND 60 60
FT STRAND 64 65
FT TURN 66 69
FT STRAND 70 71
SQ SEQUENCE 73 AA; 7851 MW; 51A8C8FA630F7175 CRC64;

Query Match 40.2%; Score 61.5; DB 1; Length 73;
Best Local Similarity 55.0%; Pred. No. 0.29;
Matches 11; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 CKGTGKPGSRIAYNCCTGSC 20
DB 46 CKSPGSSCSPTSYNCCR-SC 64

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Search completed: July 1, 2003, 10:52:51  
 Job time : 7.77083 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: July 1, 2003, 10:42:27 ; Search time 13.2812 Seconds  
(without alignments)  
387.853 Million cell updates/sec

Title: US-09-910-082A-375  
Perfect score: 153  
Sequence: 1 CKGTGKPCSRIAYNCCTGSCRSRGC 25

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :

SPTREMBL\_21:\*  
1: sp\_archaea:\*  
2: sp\_bacteria:\*  
3: sp\_fungi:\*  
4: sp\_human:\*  
5: sp\_invertebrate:\*  
6: sp\_mammal:\*  
7: sp\_mhc:\*  
8: sp\_organelle:\*  
9: sp\_phage:\*  
10: sp\_plant:\*  
11: sp\_rodent:\*  
12: sp\_virus:\*  
13: sp\_vertebrate:\*  
14: sp\_unclassified:\*  
15: sp\_virus:\*  
16: sp\_bacteriaph:\*  
17: sp\_archaeap:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	142	92.8	66	5	Q9NCV3 conus stria
2	142	92.8	66	5	Q9NCV2 conus stria
3	142	92.8	66	5	Q9NCV1 conus stria
4	134	87.6	66	5	Q9N6N6 conus stria
5	134	87.6	66	5	Q9NCV4 conus stria
6	134	87.6	66	5	Q9NCV0 conus stria
7	134	87.6	66	5	Q9NCV1 conus stria
8	112	73.2	66	5	Q9N633 conus catus
9	112	73.2	66	5	Q9N628 conus catus
10	112	73.2	66	5	Q9N625 conus catus
11	112	73.2	66	5	Q9NCW6 conus catus
12	112	73.2	66	5	Q9NCW5 conus catus
13	112	73.2	66	5	Q9NCW3 conus catus
14	112	73.2	66	5	Q9NCW4 conus catus
15	111	72.5	66	5	Q9NCW4 conus catus
16	110	71.9	66	5	Q9NCW1 conus catus

17	108	70.6	66	5	Q9NCV5 conus catus
18	105	68.6	66	5	Q9NCV7 conus catus
19	104	68.0	66	5	Q9N6F7 conus catus
20	100	65.4	66	5	Q9NCV6 conus catus
21	94	61.4	66	5	Q9N6F8 conus catus
22	94	61.4	66	5	Q9NCW0 conus catus
23	94	61.4	66	5	Q9NCV9 conus catus
24	85	55.6	66	5	Q9NCV8 conus catus
25	66	43.1	2664	5	Q26033 plasmodium
26	62.5	40.8	77	5	Q9U653 conus texti
27	62.5	40.8	77	5	Q9U652 conus texti
28	61.5	40.2	50	12	Q8Q1C7 mamestra co
29	61	39.9	78	5	Q9U656 conus texti
30	61	39.9	78	5	Q9U655 conus texti
31	61	39.9	80	5	Q9U660 conus penna
32	60.5	39.5	139	3	Q12492 saccharomyc
33	60	39.2	67	5	Q9N604 conus stria
34	60	39.2	67	5	Q9NCU6 conus stria
35	60	39.2	67	5	Q9NCU3 conus stria
36	60	39.2	67	5	Q9NCU2 conus stria
37	59.5	38.9	73	5	Q9BPB4 conus texti
38	59	38.6	67	5	Q9NCU5 conus stria
39	59	38.6	72	5	Q9XZL5 conus stria
40	59	38.6	2150	5	Q44131 caenorhabdl
41	58.5	38.2	52	12	Q9PYR8 xestia c-nl
42	58	37.9	72	5	Q9XZL4 conus stria
43	58	37.9	816	17	Q28331 archaeoglob
44	57.5	37.6	73	5	Q9BPB2 conus texti
45	57.5	37.6	1329	5	Q9BMB0 caenorhabdl

#### ALIGNMENTS

##### RESULT 1

ID	Q9NCV3	PRELIMINARY;	PRT;	66 AA.
AC	Q9NCV3;			
DT	01-OCT-2000 (TREMUREL. 15, Created)			
DT	01-OCT-2000 (TREMUREL. 15, Last sequence update)			
DT	01-JUN-2002 (TREMUREL. 21, Last annotation update)			
DE	Four-loop conotoxin (Fragment).			
OS	Conus striatus (Striated cone).			
OC	Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;			
OC	Neogastropoda; Conoidea; Conidae; Conus.			
OX	NCBI_TaxID=6493;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	STRAIN=CSTRH_1_3;			
RA	Duda T.F., Palumbi S.R.;			
RT	"Molecular evolution of four-loop conotoxin precursors from fish-			
RT	eating Conus.";			
RL	Submitted (AUG-1999) to the EMBL/Genbank/DBJ databases.			
DR	EMBL; AF174242; AAF89906.1; -.			
DR	HSSP; P05484; IMVI.			
DR	InterPro; IPR004214; Conotoxin.			
DR	Pfam; PF02950; Conotoxin; 1.			
FT	NON_TER			
FT	NON_TER			
SQ	SEQUENCE	66 AA;	7019 MW;	89B89B7AF1A7C7B3 CRC64;

Query Match 92.8%; Score 142; DB 5; Length 66;  
Best local Similarity 92.0%; Pred. No. 7.2e-14;  
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRIAYNCCTGSCRSRGC 25  
II ||||||||||||||||  
Db 41 CKAGKPCSRIAYNCCTGSCRSRGC 65

##### RESULT 2

ID	Q9NCV2	PRELIMINARY;	PRT;	66 AA.
AC	Q9NCV2;			

```

DT 01-OCT-2000 (TReMBLrel. 15, Created)
DT 01-OCT-2000 (TReMBLrel. 15, Last sequence update)
DT 01-JUN-2002 (TReMBLrel. 21, Last annotation update)
DE Four-loop conotoxin (Fragment).
OS Conus striatus (Striated cone).
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID=6493;
RN [1]
RN SEQUENCE FROM N.A.
RP STRAIN-CSTRH_1_4;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from fish-
RT eating Conus.";
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174243; AAF89907.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1 1
FT SEQUENCE 66 AA; 7033 MW; 887E401681A7C7B3 CRC64;
SQ

Query Match 92.8%; Score 142; DB 5; Length 66;
Best Local Similarity 92.0%; Pred. No. 7.2e-14;
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
1 CKGTGKPCSR IAYNCCTGSCRSKGC 25
|| |||||
41 CKAAGKPCSR IAYNCCTGSCRSKGC 65

```

```

RESULT 3
Q9NCV1 PRELIMINARY; PRT; 66 AA.
ID Q9NCV1
AC Q9NCV1;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, last sequence update)
DT 01-JUN-2002 (TREMBLrel. 21, last annotation update)
DE Four-loop conotoxin (Fragment).
OS Conus striatus (Striated cone).
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID=6493;
[1]
RN SEQUENCE FROM N.A.
RP STRAIN=CSTRH_1_6;
RC Duda T.F., Palumbi S.R.;
RA "Molecular evolution of four-loop conotoxin precursors from fish-
RT eating Conus.";
RT Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.
RL EMBL; AF174245; AAF89909.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1 1
SQ SEQUENCE 66 AA; 6976 MW; 29A992736137DA05 CRC64;

Query Match 92.8%; Score 142; DB 5; Length 66;
Best Local Similarity 92.0%; Pred. No. 7.2e-14;
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRIAYNCCTGSCRSKC 25
  || |||||
Db 41 CKAAGKPCSRIAYNCCTGSCRSKC 65

RESULT 4
Q9N6N6 PRELIMINARY; PRT; 66 AA.
ID Q9N6N6
AC Q9N6N6;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, last sequence update)
DT 01-JUN-2002 (TREMBLrel. 21, last annotation update)

```

```

DE      Four-loop conotoxin precursor (Fragment).
OS      Conus striatus (Striated cone).
OC      Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC      Neogastropoda; Conoidea; Conidae; Conus.
OX      NCBI_TaxID=6493;
RN      [1]
RP      SEQUENCE FROM N.A.
RC      STRAIN=CSTRH_1_5, AND CSTRH_1_1;
RA      Duda T.F., Palumbi S.R.;
RT      "Molecular evolution of four-loop conotoxin precursors from fish-
RT      eating Conus.";
RL      Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.
RR      EMBL: AF174244; AAF89908.1; -.
DR      EMBL: AF174240; AAF89904.1; -.
DR      HSSP: P05484; 1MVI.
DR      InterPro: IPR004214; Conotoxin.
DR      Pfam: PF02950; Conotoxin; 1.
FT      NON_TER      1      1
SQ      SEQUENCE      66 AA; 6966 MW; 29A992710CA7DA05 CRC64;

Query Match      87.6%; Score 134; DB 5; Length 66;
Best Local Similarity 88.0%; Pred. No. 1.le-12;
Matches      22; Conservative      0; Mismatches      3; Indels      0; Gaps      0;

QY      1 CKGTGKPCSR IAYNCCTGSGRSGKC 25
          || || ||||| ||||| |||||
DB      41 CRAAGKSCSR IAYNCCTGSGRSGKC 65

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```

RESULT 5
Q9NCV4 ID Q9NCV4 PRELIMINARY; PRT; 66 AA.
AC Q9NCV4;
DT 01-OCT-2000 (TReMBLrel. 15, Created)
DT 01-OCT-2000 (TReMBLrel. 15, Last sequence update)
DT 01-JUN-2002 (TReMBLrel. 21, Last annotation update)
DE Four-loop conotoxin (Fragment).
OS Conus striatus (Striated cone).
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID=6493;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CSTRH_1_2;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from fish-eating Conus."
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174241; AAF89905.1; -.
DR HSSP; P05484; 1MWI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1 1
SQ SEQUENCE 66 AA; 6980 MW; 286F491D7CA7DA05 CRC64;

Query Match 87.6%; Score 134; DB 5; Length 66;
Best local Similarity 88.0%; Pred. No. 1.1e-12;
Matches 22; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRITAYNCCGTGSCRSKC 25
   || || |||||
Db 41 CKAAGKSCSRITAYNCCGTGSCRSKC 65

RESULT 6
Q9NCV0 ID Q9NCV0 PRELIMINARY; PRT; 66 AA.
AC Q9NCV0;
DT 01-OCT-2000 (TReMBLrel. 15, Created)
DT 01-OCT-2000 (TReMBLrel. 15, Last sequence update)
DT 01-JUN-2002 (TReMBLrel. 21, Last annotation update)
DE Four-loop conotoxin (Fragment).
OS Conus striatus (Striated cone).
```

OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=6493;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN-CSTRH\_1\_7;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-eating Conus."  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174246; AAF89910.1; -.  
DR HSSP; P05484; 1MVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1  
SQ SEQUENCE 66 AA; 6981 MW; 20CDC33D7CA7DA05 CRC64;  
  
Query Match 87.6%; Score 134; DB 5; Length 66;  
Best Local Similarity 88.0%; Pred. No. 1.1e-12;  
Matches 22; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CKGTGKPCSR1AYNCCTGSCRSKC 25  
Db 41 CKAAGKSCSR1AYNCCTGSCRSKC 65

RESULT 7  
O9NCU1 PRELIMINARY; PRT; 66 AA.  
AC O9NCU1;  
DT 01-OCT-2000 (TREMBLrel. 15, Created)  
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
DT 01-JUN-2002 (TREMBLrel. 21, Last annotation update)  
DE Four-loop conotoxin (Fragment).  
OS Conus striatus (Striated cone).  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=6493;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN-CSTRH\_R\_1;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-eating Conus."  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174267; AAF89931.1; -.  
DR HSSP; P05484; 1MVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1  
SQ SEQUENCE 66 AA; 6951 MW; 0D9868C0A7A1A39F CRC64;  
  
Query Match 87.6%; Score 134; DB 5; Length 66;  
Best Local Similarity 88.0%; Pred. No. 1.1e-12;  
Matches 22; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CKGTGKPCSR1AYNCCTGSCRSKC 25  
Db 41 CKAAGKSCSR1AYNCCTGSCRSKC 65

RESULT 8  
O9N633 PRELIMINARY; PRT; 66 AA.  
AC O9N633;  
DT 01-OCT-2000 (TREMBLrel. 15, Created)  
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
DT 01-JUN-2002 (TREMBLrel. 21, Last annotation update)  
DE Four-loop conotoxin precursor (Fragment).  
OS Conus catus.  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;

RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN-CCATH\_11\_6, CCATH\_11\_1, AND CCATH\_11\_2;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-eating Conus."  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174219; AAF89883.1; -.  
DR EMBL; AF174214; AAF89878.1; -.  
DR EMBL; AF174215; AAF89879.1; -.  
DR HSSP; P05484; 1MVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1  
SQ SEQUENCE 66 AA; 7053 MW; E445338A6968A1AC CRC64;  
  
Query Match 73.2%; Score 112; DB 5; Length 66;  
Best Local Similarity 68.0%; Pred. No. 2e-09;  
Matches 17; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

OY 1 CKGTGKPCSR1AYNCCTGSCRSKC 25  
Db 41 CKKGASCRRTSYDCCTGSCRSRC 65

RESULT 9  
O9N628 PRELIMINARY; PRT; 66 AA.  
AC O9N628;  
DT 01-OCT-2000 (TREMBLrel. 15, Created)  
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
DT 01-JUN-2002 (TREMBLrel. 21, Last annotation update)  
DE Four-loop conotoxin precursor (Fragment).  
OS Conus catus.  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN-CCATH\_11I\_9, AND CCATH\_11I\_6;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-eating Conus."  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174229; AAF89893.1; -.  
DR EMBL; AF174226; AAF89890.1; -.  
DR HSSP; P05484; 1MVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1  
SQ SEQUENCE 66 AA; 7057 MW; E7AA5E310968B7DA CRC64;  
  
Query Match 73.2%; Score 112; DB 5; Length 66;  
Best Local Similarity 68.0%; Pred. No. 2e-09;  
Matches 17; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

OY 1 CKGTGKPCSR1AYNCCTGSCRSKC 25  
Db 41 CKSTGASCRRTSYDCCTGSCRSRC 65

RESULT 10  
O9N625 PRELIMINARY; PRT; 66 AA.  
AC O9N625;  
DT 01-OCT-2000 (TREMBLrel. 15, Created)  
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
DT 01-JUN-2002 (TREMBLrel. 21, Last annotation update)  
DE Four-loop conotoxin precursor (Fragment).  
OS Conus catus.  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID=101291;

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RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-VARIOUS STRAINS;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from fish-
   eating Conus.";
RL Submitted (Aug-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174228; AAF89892.1; -.
DR EMBL; AF174221; AAF89885.1; -.
DR EMBL; AF174222; AAF89886.1; -.
DR EMBL; AF174224; AAF89888.1; -.
DR EMBL; AF174225; AAF89889.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1
SQ SEQUENCE 66 AA; 7056 MW; EA11338A6968B7DA CRC64;

Query Match 73.2%; Score 112; DB 5; Length 66;
Best Local Similarity 68.0%; Pred. No. 2e-09;
Matches 17; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

OY 1 CKGTGKPCSRIAYNCTGSCRSKC 25
Db 41 CKGTGASCRRTSYDCTGSCRSRC 65

RESULT 11
O9NCW6 PRELIMINARY; PRT; 66 AA.
ID O9NCW6;
AC O9NCW6;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-JUN-2002 (Tremblrel. 21, Last annotation update)
DE Four-loop conotoxin (Fragment).
OS Conus catus.
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID=101291;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-CCATH_11_3;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from fish-
   eating Conus.";
RL Submitted (Aug-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174216; AAF89880.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1
SQ SEQUENCE 66 AA; 7023 MW; E445339B6968B0AC CRC64;

Query Match 73.2%; Score 112; DB 5; Length 66;
Best Local Similarity 68.0%; Pred. No. 2e-09;
Matches 17; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

OY 1 CKGTGKPCSRIAYNCTGSCRSKC 25
Db 41 CKGTGASCRRTSYDCTGSCRSRC 65

RESULT 12
O9NCW5 PRELIMINARY; PRT; 66 AA.
ID O9NCW5;
AC O9NCW5;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-JUN-2002 (Tremblrel. 21, Last annotation update)
DE Four-loop conotoxin (Fragment).
OS Conus catus.
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID=101291;
RN [1]
RP SEQUENCE FROM N.A.
```

```
OX NCBI_TaxID=101291;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-CCATH_11_4;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from fish-
   eating Conus.";
RL Submitted (Aug-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174217; AAF89881.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1
SQ SEQUENCE 66 AA; 7083 MW; E445338A7939E4A8 CRC64;

Query Match 73.2%; Score 112; DB 5; Length 66;
Best Local Similarity 68.0%; Pred. No. 2e-09;
Matches 17; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

OY 1 CKGTGKPCSRIAYNCTGSCRSKC 25
Db 41 CKGTGASCRRTSYDCTGSCRSRC 65

RESULT 13
O9NCW3 PRELIMINARY; PRT; 66 AA.
ID O9NCW3;
AC O9NCW3;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-JUN-2002 (Tremblrel. 21, Last annotation update)
DE Four-loop conotoxin (Fragment).
OS Conus catus.
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID=101291;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-CCATH_11_7;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from fish-
   eating Conus.";
RL Submitted (Aug-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF174220; AAF89884.1; -.
DR HSSP; P05484; 1MVI.
DR InterPro; IPR004214; Conotoxin.
DR Pfam; PF02950; Conotoxin; 1.
FT NON_TER 1
SQ SEQUENCE 66 AA; 7054 MW; E9FE5E310968A1AC CRC64;

Query Match 73.2%; Score 112; DB 5; Length 66;
Best Local Similarity 68.0%; Pred. No. 2e-09;
Matches 17; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

OY 1 CKGTGKPCSRIAYNCTGSCRSKC 25
Db 41 CKGTGASCRRTSYDCTGSCRSRC 65

RESULT 14
O9NCW2 PRELIMINARY; PRT; 66 AA.
ID O9NCW2;
AC O9NCW2;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-JUN-2002 (Tremblrel. 21, Last annotation update)
DE Four-loop conotoxin (Fragment).
OS Conus catus.
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
OC Neogastropoda; Conoidea; Conidae; Conus.
OX NCBI_TaxID=101291;
RN [1]
RP SEQUENCE FROM N.A.
```



RC STRAIN-CCATH\_111\_3;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-  
RT eating Conus.";  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174223; AAF89887.1; -.  
DR HSSP; P05484; 1MVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1  
SQ SEQUENCE 66 AA; 7026 MW; EA11339E382DB7DA CRC64;

Query Match 73.2%; Score 112; DB 5; Length 66;  
Best Local Similarity 68.0%; Pred. No. 2e-09;  
Matches 17; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

OY 1 CKGTGKPCSRIAYNCCTGSCRSKC 25  
||| | | :|:|||||||:|  
DB 41 CKSTGASCRRTSYDCCTGSCRSKC 65

RESULT 15

O9NCW4  
ID O9NCW4 PRELIMINARY; PRT; 66 AA.  
AC O9NCW4;  
DT 01-OCT-2000 (TREMBlrel. 15, Created)  
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
DT 01-JUN-2002 (TREMBlrel. 21, Last annotation update)  
DE Four-loop conotoxin (Fragment).  
OS Conus catus.  
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;  
OC Neogastropoda; Conoidea; Conidae; Conus.  
OX NCBI\_TaxID-101291;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN-CCATH\_11\_5;  
RA Duda T.F., Palumbi S.R.;  
RT "Molecular evolution of four-loop conotoxin precursors from fish-  
RT eating Conus.";  
RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AF174218; AAF89882.1; -.  
DR HSSP; P05484; 1MVI.  
DR InterPro; IPR004214; Conotoxin.  
DR Pfam; PF02950; Conotoxin; 1.  
FT NON\_TER 1  
SQ SEQUENCE 66 AA; 6995 MW; E445338A6AA7A1AC CRC64;

Query Match 72.5%; Score 111; DB 5; Length 66;  
Best Local Similarity 68.0%; Pred. NO. 2.8e-09;  
Matches 17; Conservative 2; Mismatches 6; Indels 0; Gaps 0;

OY 1 CKGTGKPCSRIAYNCCTGSCRSKC 25  
||| | | :|:|||||||:|  
DB 41 CKKGASCRRTSYGCCCTGSCRSKC 65

Search completed: July 1, 2003, 10:52:17  
Job time : 14.2812 secs

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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: July 1, 2003, 10:52:57 ; Search time 8.85417 Seconds  
(without alignments)  
309.591 Million cell updates/sec

Title: US-09-910-082A-375

Perfect score: 153

Sequence: 1 CKGTGKPCSR IAYNCTGSCRSKC 25

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 424699 seqs, 109646833 residues

Total number of hits satisfying chosen parameters: 424699

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Published\_Applications\_AA:\*

1: /cgn2\_6/ptodata/1/pubpaa/US08\_NEW\_PUB.pep:\*  
2: /cgn2\_6/ptodata/1/pubpaa/PCT\_NEW\_PUB.pep:\*  
3: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pep:\*  
4: /cgn2\_6/ptodata/1/pubpaa/US06\_PUBCOMB.pep:\*  
5: /cgn2\_6/ptodata/1/pubpaa/US07\_NEW\_PUB.pep:\*  
6: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep:\*  
7: /cgn2\_6/ptodata/1/pubpaa/PCTUS\_PUBCOMB.pep:\*  
8: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep:\*  
9: /cgn2\_6/ptodata/1/pubpaa/US09\_NEW\_PUB.pep:\*  
10: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep:\*  
11: /cgn2\_6/ptodata/1/pubpaa/US10\_NEW\_PUB.pep:\*  
12: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep:\*  
13: /cgn2\_6/ptodata/1/pubpaa/US60\_NEW\_PUB.pep:\*  
14: /cgn2\_6/ptodata/1/pubpaa/US60\_PUBCOMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	70	45.8	1840	US-10-123-155-131	Sequence 131, App
2	69	45.1	1058	US-10-123-155-231	Sequence 231, App
3	68	44.4	2380	US-10-184-644-597	Sequence 597, App
4	68	44.4	2380	US-10-184-634-597	Sequence 597, App
5	67	43.8	708	US-10-184-644-211	Sequence 211, App
6	67	43.8	708	US-10-184-634-211	Sequence 211, App
7	67	43.8	1413	US-10-184-644-33	Sequence 33, Appl
8	67	43.8	1413	US-10-184-634-33	Sequence 33, Appl
9	66.5	43.5	2886	US-10-184-644-7	Sequence 7, Appl1
10	66.5	43.5	2886	US-10-184-634-7	Sequence 7, Appl1
11	66	43.1	1328	US-10-123-155-157	Sequence 157, App
12	66	43.1	2276	US-10-123-155-9	Sequence 9, Appl1
13	66	43.1	2692	US-10-184-644-225	Sequence 225, App
14	66	43.1	2692	US-10-184-634-225	Sequence 225, App
15	66	43.1	3266	US-10-123-155-211	Sequence 211, App
16	66	43.1	4185	US-10-123-155-67	Sequence 67, Appl
17	65	42.5	1570	US-10-184-644-335	Sequence 335, App
18	65	42.5	1570	US-10-184-634-335	Sequence 335, App
19	65	42.5	3690	US-10-184-644-517	Sequence 517, App

20	65	42.5	3690	US-10-184-634-517	Sequence 517, App
21	65	42.5	3819	US-10-123-155-405	Sequence 405, App
22	64.5	42.2	2397	US-10-184-644-29	Sequence 29, Appl
23	64.5	42.2	2397	US-10-184-634-29	Sequence 29, Appl
24	64.5	42.2	3721	US-10-123-155-543	Sequence 543, App
25	64	41.8	46	US-09-894-882-377	Sequence 377, App
26	64	41.8	46	US-09-894-882-383	Sequence 383, App
27	64	41.8	46	US-09-894-882-414	Sequence 414, App
28	64	41.8	46	US-09-894-882-425	Sequence 425, App
29	64	41.8	46	US-09-894-882-437	Sequence 437, App
30	64	41.8	82	US-09-894-882-45	Sequence 45, Appl
31	64	41.8	82	US-09-894-882-54	Sequence 54, Appl
32	64	41.8	82	US-09-894-882-71	Sequence 71, Appl
33	64	41.8	82	US-09-894-882-101	Sequence 101, App
34	64	41.8	82	US-09-894-882-122	Sequence 122, App
35	64	41.8	82	US-09-894-882-143	Sequence 143, App
36	64	41.8	1174	US-10-184-644-353	Sequence 353, App
37	64	41.8	1174	US-10-184-634-353	Sequence 353, App
38	64	41.8	1300	US-10-174-590-269	Sequence 269, App
39	64	41.8	1300	US-10-176-758-269	Sequence 269, App
40	64	41.8	1300	US-10-175-737-269	Sequence 269, App
41	64	41.8	1300	US-10-173-706-269	Sequence 269, App
42	64	41.8	1300	US-10-175-738-269	Sequence 269, App
43	64	41.8	1300	US-10-175-752-269	Sequence 269, App
44	64	41.8	1300	US-10-176-482-269	Sequence 269, App
45	64	41.8	1300	US-10-176-757-269	Sequence 269, App

ALIGNMENTS

RESULT 1

US-10-123-155-131

Sequence 131, Application US/10123155

Publication NO. US20030068794A1

GENERAL INFORMATION:

APPLICANT: Baker, Kevin P.

APPLICANT: Beresini, Maureen

APPLICANT: DeForge, Laura

APPLICANT: Desnoyers, Luc

APPLICANT: Flvaroff, Ellen

APPLICANT: Gao, Wei-Qiang

APPLICANT: Gerritsen, Mary E.

APPLICANT: Goddard, Audrey

APPLICANT: Godowski, Paul J.

APPLICANT: Gurney, Austin L.

APPLICANT: Sherwood, Steven

APPLICANT: Smith, Victoria

APPLICANT: Stewart, Timothy A.

APPLICANT: Tumas, Daniel

APPLICANT: Watanabe, Colin K

APPLICANT: Wood, William

APPLICANT: Zhang, Zemin

TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC

FILE REFERENCE: P3330R1C30

CURRENT APPLICATION NUMBER: US/10/123,155

CURRENT FILING DATE: 2002-04-15

Prior Application removed - See Palm or File Wrapper

NUMBER OF SEQ ID NOS: 550

SEQ ID NO 131

LENGTH: 1840

TYPE: DNA

ORGANISM: Homo Sapien

US-10-123-155-131

Query Match 45.8%; Score 70; DB 9; Length 1840;

Best Local Similarity 44.0%; Pred. No. 7.1;

Matches 11; Conservative 1; Mismatches 13; Indels 0; Gaps 0;

Oy 1 CKGTGKPCSR IAYNCTGSCRSKC 25

Db 241 CGGTGTGCGACAGCCAGCATGCC 265

```

RESULT 2
US-10-123-155-231
; Sequence 231, Application US/10123155
; Publication No. US20030068794A1
; GENERAL INFORMATION:
; APPLICANT: Baker, Kevin P.
; APPLICANT: Beresini, Maureen
; APPLICANT: Deforge, Laura
; APPLICANT: Desnoyers, Luc
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Gao, Wei-Qiang
; APPLICANT: Gerritsen, Mary E.
; APPLICANT: Goddard, Audrey
; APPLICANT: Godowski, Paul J.
; APPLICANT: Gurney, Austin L.
; APPLICANT: Sherwood, Steven
; APPLICANT: Smith, Victoria
; APPLICANT: Stewart, Timothy A.
; APPLICANT: Tumas, Daniel
; APPLICANT: Watanabe, Colin K
; APPLICANT: Wood, William
; APPLICANT: Zhang, Zemin
; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
; FILE REFERENCE: P3330R1C30
; CURRENT APPLICATION NUMBER: US/10/123,155
; CURRENT FILING DATE: 2002-04-15
; Prior Application removed - See Palm or File Wrapper
; NUMBER OF SEQ ID NOS: 550
; SEQ ID NO 231
; LENGTH: 1058
; TYPE: DNA
; ORGANISM: Homo Sapien
US-10-123-155-231

Query Match 45.1%; Score 69; DB 9; Length 1058;
Best Local Similarity 48.0%; Pred. No. 5.8;
Matches 12; Conservative 1; Mismatches 12; Indels 0; Gaps 0;

Db 238 CTGGGGGCGACGACCCCTGCTGGAC 262

RESULT 3
US-10-184-644-597
; Sequence 597, Application US/10184644
; Publication No. US20030044930A1
; GENERAL INFORMATION:
; APPLICANT: Baker, Kevin P.
; APPLICANT: Chen, Jian
; APPLICANT: Desnoyers, Luc
; APPLICANT: Goddard, Audrey
; APPLICANT: Godowski, Paul J.
; APPLICANT: Gurney, Austin L.
; APPLICANT: Pan, James
; APPLICANT: Smith, Victoria
; APPLICANT: Watanabe, Colin K.
; APPLICANT: Wood, William I.
; APPLICANT: Zhang, Zemin
; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
; FILE REFERENCE: P3430R1C227
; CURRENT APPLICATION NUMBER: US/10/184,644
; CURRENT FILING DATE: 2002-06-28
; Prior Application removed - See File Wrapper or Palm
; NUMBER OF SEQ ID NOS: 612
; SEQ ID NO 597
; LENGTH: 2380
; TYPE: DNA
; ORGANISM: Homo Sapien

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```

US-10-184-644-597

Query Match          44.4%; Score 68; DB 9; Length 2380;
Best Local Similarity 48.0%; Pred. No. 14;
Matches 12; Conservative 1; Mismatches 12; Indels 0; Gaps 0;

QY      1 CKGTGKPCSRIRYNCCTGSCRSKGC 25
      1 111 1 1111:1 1 1
DB      932 CGGTGGCACAAAACCTGACTGGAC 956

RESULT 4
US-10-184-634-597
; Sequence 597, Application US/10184634
; Publication No. US20030068684A1
; GENERAL INFORMATION:
; APPLICANT: Baker, Kevin P.
; APPLICANT: Chen, Jian
; APPLICANT: Desnoyers, Luc
; APPLICANT: Goddard, Audrey
; APPLICANT: Godowski, Paul J.
; APPLICANT: Gurney, Austin L.
; APPLICANT: Pan, James
; APPLICANT: Smith, Victoria
; APPLICANT: Watanabe, Colin K.
; APPLICANT: Wood, William I.
; APPLICANT: Zhang, Zemin
; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
; TITLE OF INVENTION: ACIDS ENCODING THE SAME
; FILE REFERENCE: P3430R1C217
; CURRENT APPLICATION NUMBER: US/10/184,634
; CURRENT FILING DATE: 2002-06-28
; Prior Application removed - See File Wrapper or Palm
; NUMBER OF SEQ ID NOS: 612
; SEQ ID NO 597
; LENGTH: 2380
; TYPE: DNA
; ORGANISM: Homo Sapien
US-10-184-634-597

Query Match          44.4%; Score 68; DB 9; Length 2380;
Best Local Similarity 48.0%; Pred. No. 14;
Matches 12; Conservative 1; Mismatches 12; Indels 0; Gaps 0;

QY      1 CKGTGKPCSRIRYNCCTGSCRSKGC 25
      1 111 1 1111:1 1 1
DB      932 CGGTGGCACAAAACCTGACTGGAC 956

RESULT 5
US-10-184-644-211
; Sequence 211, Application US/10184644
; Publication No. US20030044930A1
; GENERAL INFORMATION:
; APPLICANT: Baker, Kevin P.
; APPLICANT: Chen, Jian
; APPLICANT: Desnoyers, Luc
; APPLICANT: Goddard, Audrey
; APPLICANT: Godowski, Paul J.
; APPLICANT: Gurney, Austin L.
; APPLICANT: Pan, James
; APPLICANT: Smith, Victoria
; APPLICANT: Watanabe, Colin K.
; APPLICANT: Wood, William I.
; APPLICANT: Zhang, Zemin
; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
; TITLE OF INVENTION: ACIDS ENCODING THE SAME
; FILE REFERENCE: P3430R1C227
; CURRENT APPLICATION NUMBER: US/10/184,644
; CURRENT FILING DATE: 2002-06-28
; Prior Application removed - See File Wrapper or Palm
; NUMBER OF SEQ ID NOS: 612
; SEQ ID NO 211

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;; FILE REFERENCE: P3430R1C227
;; CURRENT APPLICATION NUMBER: US/10/184,644
;; CURRENT FILING DATE: 2002-06-28
;; Prior Application removed - See File Wrapper or Palm
;; NUMBER OF SEQ ID NOS: 612
;;
;; SEQ ID NO 7
;; LENGTH: 2886
;; TYPE: DNA
;; ORGANISM: Homo Sapien
US-10-184-644-7

Query Match          43.5%; Score 66.5; DB 9; Length 2886;
Best Local Similarity 37.5%; Pred. No. 24;
Matches 12; Conservative 3; Mismatches 10; Indels 7; Gaps 1;

QY 1 CKGTGKPCSR1AYNCCTGSC-----RSGKC 25
DB 640 CAGTGGGCTTCCTCCTGACTTTATTTTGTGTC 671

RESULT 10
US-10-184-634-7
; Sequence 7, Application US/10184634
; Publication No. US20030068684A1
; GENERAL INFORMATION:
; APPLICANT: Baker, Kevin P.
; APPLICANT: Chen, Jian
; APPLICANT: Desnoyers, Luc
; APPLICANT: Goddard, Audrey
; APPLICANT: Godowski, Paul J.
; APPLICANT: Gurney, Austin L.
; APPLICANT: Pan, James
; APPLICANT: Smith, Victoria
; APPLICANT: Watanabe, Colin K.
; APPLICANT: Wood, William I.
; APPLICANT: Zhang, Zemin
; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
; TITLE OF INVENTION: ACIDS ENCODING THE SAME
; FILE REFERENCE: P3430R1C217
; CURRENT APPLICATION NUMBER: US/10/184,634
; CURRENT FILING DATE: 2002-06-28
; Prior Application removed - See File Wrapper or Palm
; NUMBER OF SEQ ID NOS: 612
; SEQ ID NO 7
; LENGTH: 2886
; TYPE: DNA
; ORGANISM: Homo Sapien
US-10-184-634-7

Query Match          43.5%; Score 66.5; DB 9; Length 2886;
Best Local Similarity 37.5%; Pred. No. 24;
Matches 12; Conservative 3; Mismatches 10; Indels 7; Gaps 1;

QY 1 CKGTGKPCSR1AYNCCTGSC-----RSGKC 25
DB 640 CAGTGGGCTTCCTCCTGACTTTATTTTGTGTC 671

RESULT 11
US-10-123-155-157
; Sequence 157, Application US/10123155
; Publication No. US20030068794A1
; GENERAL INFORMATION:
; APPLICANT: Baker, Kevin P.
; APPLICANT: Beresini, Maureen
; APPLICANT: DeForge, Laura
; APPLICANT: Desnoyers, Luc
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Gao, Wei-Qiang
; APPLICANT: Gerritsen, Mary E.
; APPLICANT: Goddard, Audrey
; APPLICANT: Godowski, Paul J.
; APPLICANT: Gurney, Austin L.
```

```
;; APPLICANT: Sherwood, Steven
;; APPLICANT: Smith, Victoria
;; APPLICANT: Stewart, Timothy A.
;; APPLICANT: Tumas, Daniel
;; APPLICANT: Watanabe, Colin K
;; APPLICANT: Wood, William
;; APPLICANT: Zhang, Zemin
;; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
;; TITLE OF INVENTION: ACIDS ENCODING THE SAME
;; FILE REFERENCE: P3330R1C30
;; CURRENT APPLICATION NUMBER: US/10/123,155
;; CURRENT FILING DATE: 2002-04-15
;; Prior Application removed - See Palm or File Wrapper
;; NUMBER OF SEQ ID NOS: 550
;; SEQ ID NO 9
;; LENGTH: 1328
;; TYPE: DNA
;; ORGANISM: Homo Sapien
US-10-123-155-157

Query Match          43.1%; Score 66; DB 9; Length 1328;
Best Local Similarity 44.0%; Pred. No. 15;
Matches 13; Conservative 0; Mismatches 10; Indels 2; Gaps 1;

QY 1 CKGTGKPCSR1AYNCCTGSCRSKC 25
DB 520 CTGTGAGCCCAACCTGGC--GAC 542

RESULT 12
US-10-123-155-9
; Sequence 9, Application US/10123155
; Publication No. US20030068794A1
; GENERAL INFORMATION:
; APPLICANT: Baker, Kevin P.
; APPLICANT: Beresini, Maureen
; APPLICANT: DeForge, Laura
; APPLICANT: Desnoyers, Luc
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Gao, Wei-Qiang
; APPLICANT: Gerritsen, Mary E.
; APPLICANT: Goddard, Audrey
; APPLICANT: Godowski, Paul J.
; APPLICANT: Gurney, Austin L.
; APPLICANT: Sherwood, Steven
; APPLICANT: Smith, Victoria
; APPLICANT: Stewart, Timothy A.
; APPLICANT: Tumas, Daniel
; APPLICANT: Watanabe, Colin K
; APPLICANT: Wood, William
; APPLICANT: Zhang, Zemin
; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
; TITLE OF INVENTION: ACIDS ENCODING THE SAME
; FILE REFERENCE: P3330R1C30
; CURRENT APPLICATION NUMBER: US/10/123,155
; CURRENT FILING DATE: 2002-04-15
; Prior Application removed - See Palm or File Wrapper
; NUMBER OF SEQ ID NOS: 550
; SEQ ID NO 9
; LENGTH: 2276
; TYPE: DNA
; ORGANISM: Homo Sapien
US-10-123-155-9

Query Match          43.1%; Score 66; DB 9; Length 2276;
Best Local Similarity 44.0%; Pred. No. 22;
Matches 11; Conservative 2; Mismatches 12; Indels 0; Gaps 0;

QY 1 CKGTGKPCSR1AYNCCTGSCRSKC 25
DB 816 CAGAGGCCATCAAGCATGCCAAGGC 840
```

## RESULT 13

US-10-184-644-225

; Sequence 225, Application US/10184644

; Publication No. US20030044930A1

; GENERAL INFORMATION:

; APPLICANT: Baker, Kevin P.

; APPLICANT: Chen, Jian

; APPLICANT: Desnoyers, Luc

; APPLICANT: Goddard, Audrey

; APPLICANT: Godowski, Paul J.

; APPLICANT: Gurney, Austin L.

; APPLICANT: Pan, James

; APPLICANT: Smith, Victoria

; APPLICANT: Watanabe, Colin K.

; APPLICANT: Wood, William I.

; APPLICANT: Zhang, Zemin

; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC

; TITLE OF INVENTION: ACIDS ENCODING THE SAME

; FILE REFERENCE: P3430RIC227

; CURRENT APPLICATION NUMBER: US/10/184,644

; CURRENT FILING DATE: 2002-06-28

; Prior Application removed - See File Wrapper or Palm

; NUMBER OF SEQ ID NOS: 612

; SEQ ID NO 225

; LENGTH: 2692

; TYPE: DNA

; ORGANISM: Homo Sapien

US-10-184-644-225

## Query Match

43.1%; Score 66; DB 9; Length 2692;

Best Local Similarity 47.8%; Pred. NO. 26;

Matches 11; Conservative 2; Mismatches 10; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRIVNCTGSCRSRG 23

| | | | | : | | | | | : |

Db 2024 CTGTGTGCATGTTCCCTGTCTGG 2046

## RESULT 14

US-10-184-634-225

; Sequence 225, Application US/10184634

; Publication No. US20030068684A1

; GENERAL INFORMATION:

; APPLICANT: Baker, Kevin P.

; APPLICANT: Chen, Jian

; APPLICANT: Desnoyers, Luc

; APPLICANT: Goddard, Audrey

; APPLICANT: Godowski, Paul J.

; APPLICANT: Gurney, Austin L.

; APPLICANT: Pan, James

; APPLICANT: Smith, Victoria

; APPLICANT: Watanabe, Colin K.

; APPLICANT: Wood, William I.

; APPLICANT: Zhang, Zemin

; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC

; TITLE OF INVENTION: ACIDS ENCODING THE SAME

; FILE REFERENCE: P3430RIC217

; CURRENT APPLICATION NUMBER: US/10/184,634

; CURRENT FILING DATE: 2002-06-28

; Prior Application removed - See File Wrapper or Palm

; NUMBER OF SEQ ID NOS: 612

; SEQ ID NO 225

; LENGTH: 2692

; TYPE: DNA

; ORGANISM: Homo Sapien

US-10-184-634-225

## Query Match

43.1%; Score 66; DB 9; Length 2692;

Best Local Similarity 47.8%; Pred. NO. 26;

Matches 11; Conservative 2; Mismatches 10; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRIVNCTGSCRSRG 23

| | | | | : | | | | | : |

Db 2024 CTGTGTGCATGTTCCCTGTCTGG 2046

## RESULT 15

US-10-123-155-211

; Sequence 211, Application US/10123155

; Publication No. US20030068794A1

; GENERAL INFORMATION:

; APPLICANT: Baker, Kevin P.

; APPLICANT: Beresini, Maureen

; APPLICANT: DeForge, Laura

; APPLICANT: Desnoyers, Luc

; APPLICANT: Filvaroff, Ellen

; APPLICANT: Gao, Wei-Qiang

; APPLICANT: Gerritsen, Mary E.

; APPLICANT: Goddard, Audrey

; APPLICANT: Godowski, Paul J.

; APPLICANT: Gurney, Austin L.

; APPLICANT: Sherwood, Steven

; APPLICANT: Smith, Victoria

; APPLICANT: Stewart, Timothy A.

; APPLICANT: Tumas, Daniel

; APPLICANT: Watanabe, Colin K.

; APPLICANT: Wood, William

; APPLICANT: Zhang, Zemin

; TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC

; TITLE OF INVENTION: ACIDS ENCODING THE SAME

; FILE REFERENCE: P3330RIC30

; CURRENT APPLICATION NUMBER: US/10/123,155

; CURRENT FILING DATE: 2002-04-15

; Prior Application removed - See Palm or File Wrapper

; NUMBER OF SEQ ID NOS: 550

; SEQ ID NO 211

; LENGTH: 3266

; TYPE: DNA

; ORGANISM: Homo Sapien

US-10-123-155-211

## Query Match

43.1%; Score 66; DB 9; Length 3266;

Best Local Similarity 48.0%; Pred. NO. 30;

Matches 12; Conservative 2; Mismatches 11; Indels 0; Gaps 0;

QY 1 CKGTGKPCSRIVNCTGSCRSRGK 25

| | | | | : | | | | | : |

Db 2771 CCGGGCCCTCTATGCCCTGGCCAGCC 2795

Search completed: July 1, 2003, 11:01:52  
Job time : 9.85417 secs

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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: July 1, 2003, 10:49:37 ; Search time 6.25 Seconds  
(without alignments)  
117.692 Million cell updates/sec

Title: US-09-910-082A-375  
Perfect score: 153  
Sequence: 1 CKGTGKPCSR1AYNCTGSCRSRGK 25

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued\_Patents\_AA:\*  
1: /cgn2\_6/ptodata/1/1aa/5A\_COMB.pep:\*  
2: /cgn2\_6/ptodata/1/1aa/5B\_COMB.pep:\*  
3: /cgn2\_6/ptodata/1/1aa/6A\_COMB.pep:\*  
4: /cgn2\_6/ptodata/1/1aa/6B\_COMB.pep:\*  
5: /cgn2\_6/ptodata/1/1aa/PCTUS\_COMB.pep:\*  
6: /cgn2\_6/ptodata/1/1aa/Backfiles1.pep:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	126	82.4	25	1 US-08-496-847-35	Sequence 35, Appl
2	126	82.4	25	2 US-08-965-918-35	Sequence 35, Appl
3	126	82.4	25	3 US-08-613-400A-35	Sequence 35, Appl
4	123	80.4	25	1 US-08-049-794-12	Sequence 12, Appl
5	123	80.4	25	1 US-08-496-847-12	Sequence 12, Appl
6	123	80.4	25	2 US-08-742-774-12	Sequence 12, Appl
7	123	80.4	25	2 US-08-675-354-12	Sequence 12, Appl
8	123	80.4	25	2 US-08-965-918-12	Sequence 12, Appl
9	123	80.4	25	2 US-09-138-439-12	Sequence 12, Appl
10	123	80.4	25	3 US-08-613-400A-12	Sequence 12, Appl
11	123	80.4	25	3 US-09-298-017-12	Sequence 12, Appl
12	123	80.4	25	4 US-09-392-979A-12	Sequence 12, Appl
13	122	79.7	25	1 US-07-789-913-9	Sequence 9, Appl
14	122	79.7	25	1 US-07-789-913-12	Sequence 12, Appl
15	122	79.7	25	1 US-08-049-794-9	Sequence 9, Appl
16	122	79.7	25	1 US-08-049-794-17	Sequence 17, Appl
17	122	79.7	25	1 US-08-496-847-9	Sequence 9, Appl
18	122	79.7	25	1 US-08-496-847-17	Sequence 17, Appl
19	122	79.7	25	1 US-08-496-847-36	Sequence 36, Appl
20	122	79.7	25	2 US-08-742-774-9	Sequence 9, Appl
21	122	79.7	25	2 US-08-742-774-17	Sequence 17, Appl
22	122	79.7	25	2 US-08-675-354-9	Sequence 9, Appl
23	122	79.7	25	2 US-08-675-354-17	Sequence 17, Appl
24	122	79.7	25	2 US-08-965-918-9	Sequence 9, Appl
25	122	79.7	25	2 US-08-965-918-17	Sequence 17, Appl
26	122	79.7	25	2 US-08-965-918-36	Sequence 36, Appl
27	122	79.7	25	2 US-09-138-439-9	Sequence 9, Appl

28	122	79.7	25	2 US-09-138-439-17	Sequence 17, Appl
29	122	79.7	25	3 US-08-613-400A-9	Sequence 9, Appl
30	122	79.7	25	3 US-08-613-400A-17	Sequence 17, Appl
31	122	79.7	25	3 US-08-613-400A-36	Sequence 36, Appl
32	122	79.7	25	3 US-09-298-017-9	Sequence 9, Appl
33	122	79.7	25	3 US-09-298-017-17	Sequence 17, Appl
34	122	79.7	25	4 US-09-392-979A-9	Sequence 9, Appl
35	122	79.7	25	4 US-09-392-979A-17	Sequence 17, Appl
36	122	79.7	26	1 US-08-496-847-11	Sequence 11, Appl
37	122	79.7	26	1 US-08-496-847-11	Sequence 11, Appl
38	122	79.7	26	2 US-08-742-774-11	Sequence 11, Appl
39	122	79.7	26	2 US-08-675-354-11	Sequence 11, Appl
40	122	79.7	26	2 US-08-965-918-11	Sequence 11, Appl
41	122	79.7	26	2 US-09-138-439-11	Sequence 11, Appl
42	122	79.7	26	3 US-08-613-400A-11	Sequence 11, Appl
43	122	79.7	26	3 US-09-298-017-11	Sequence 11, Appl
44	122	79.7	26	4 US-09-392-979A-11	Sequence 11, Appl
45	121	79.1	25	1 US-07-789-913-1	Sequence 1, Appl

ALIGNMENTS

RESULT 1  
US-08-496-847-35  
; Sequence 35, Application US/08496847  
; Patent No. 5795864  
; GENERAL INFORMATION:  
; APPLICANT: Amstutz, Gary A.  
; APPLICANT: Bowersox, Stephen S.  
; APPLICANT: Gohl, Kishorchandra  
; APPLICANT: Adriaenssens, Peter I.  
; APPLICANT: Kristipati, Ramasharma  
; TITLE OF INVENTION: METHODS AND  
; TITLE OF INVENTION: FORMULATIONS FOR PREVENTING PROGRESSION OF NEUROPATHIC PAIN  
; NUMBER OF SEQUENCES: 36  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Dehlinger & Associates  
; STREET: 350 Cambridge Avenue, Suite 250  
; CITY: Palo Alto  
; STATE: CA  
; COUNTRY: US  
; ZIP: 94306-1546  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette  
; COMPUTER: IBM Compatible  
; OPERATING SYSTEM: DOS  
; SOFTWARE: FastSeq for Windows Version 2.0  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/496,847  
; FILING DATE: 27-JUN-1995  
; CLASSIFICATION: 514  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Stratford, Carol A  
; REGISTRATION NUMBER: 34,444  
; REFERENCE/DOCKET NUMBER: 5865-0009.31  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 650-324-0880  
; TELEFAX: 650-324-0960  
; INFORMATION FOR SEQ ID NO: 35:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 25 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
; HYPOTHETICAL: NO  
; ORIGINAL SOURCE:  
; INDIVIDUAL ISOLATE: SNX-273, FIGURE 2  
; US-08-496-847-35  
Query Match 82.4%; Score 126; DB 1; Length 25;  
Best Local Similarity 80.0%; Pred. No. 3e-07;  
Matches 20; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 CKGTGKPCSR1AYNCTGSCRSKC 25  
||| | |||:|||||  
Db 1 CKGKAKCSRLAYDCCTGSCRSKC 25

## RESULT 2

US-08-965-918-35  
; Sequence 35, Application US/08965918  
; Patent No. 5891849

## GENERAL INFORMATION:

APPLICANT: Amstutz, Gary A.  
APPLICANT: Bowersox, Stephen S.  
APPLICANT: Gohil, Kishorchandra  
APPLICANT: Adriaenssens, Peter I.  
APPLICANT: Kristipati, Ramasharma  
TITLE OF INVENTION: METHODS AND FORMULATIONS FOR PREVENTING  
TITLE OF INVENTION: PROGRESSION OF NEUROPATHIC PAIN  
NUMBER OF SEQUENCES: 36  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Dehlinger & Associates  
STREET: 350 Cambridge Avenue, Suite 250  
CITY: Palo Alto  
STATE: CA  
COUNTRY: US  
ZIP: 94306-1546

## COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS  
SOFTWARE: FastSeq for Windows Version 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/965,918  
FILING DATE: 07-NOV-1997  
CLASSIFICATION: 514  
ATTORNEY/AGENT INFORMATION:  
NAME: Mohr, Judy M.  
REGISTRATION NUMBER: 38,563  
REFERENCE/DOCKET NUMBER: 5865-0009.34  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 650-324-0880  
TELEFAX: 650-324-0960  
INFORMATION FOR SEQ ID NO: 35:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
INDIVIDUAL ISOLATE: SNX-273, FIGURE 2  
US-08-965-918-35

Query Match 82.4%; Score 126; DB 2; Length 25;  
Best Local Similarity 80.0%; Pred. No. 3e-07;  
Matches 20; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 CKGTGKPCSR1AYNCTGSCRSKC 25  
||| | |||:|||||  
Db 1 CKGKAKCSRLAYDCCTGSCRSKC 25

## RESULT 3

US-08-613-400A-35  
; Sequence 35, Application US/08613400A  
; Patent No. 6054429

## GENERAL INFORMATION:

APPLICANT: Bowersox, S. Scott  
APPLICANT: Gaddois, Theresa  
APPLICANT: Petrus, Mark, R.  
APPLICANT: Luther, Robert, R.  
TITLE OF INVENTION: IMPROVED EPIDURAL  
TITLE OF INVENTION: METHOD OF PRODUCING ANALGESIA

NUMBER OF SEQUENCES: 36  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Dehlinger & Associates  
STREET: 350 Cambridge Avenue, Suite 250  
CITY: Palo Alto  
STATE: CA  
COUNTRY: US  
ZIP: 94306-1546

## COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS  
SOFTWARE: FastSeq for Windows Version 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/613,400A  
FILING DATE: 08-MAR-1996  
CLASSIFICATION: 514  
PRIOR APPLICATION NUMBER:  
APPLICATION NUMBER:  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Stratford, Carol A  
REGISTRATION NUMBER: 34,444  
REFERENCE/DOCKET NUMBER: 5865-0019  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 650-324-0880  
TELEFAX: 650-324-0960  
INFORMATION FOR SEQ ID NO: 35:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
INDIVIDUAL ISOLATE: MV11A/SNX-111, FIGURE 2  
US-08-613-400A-35

Query Match 82.4%; Score 126; DB 3; Length 25;  
Best Local Similarity 80.0%; Pred. No. 3e-07;  
Matches 20; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 CKGTGKPCSR1AYNCTGSCRSKC 25  
||| | |||:|||||  
Db 1 CKGKAKCSRLAYDCCTGSCRSKC 25

## RESULT 4

US-08-049-794-12  
; Sequence 12, Application US/08049794  
; Patent No. 5587454

## GENERAL INFORMATION:

APPLICANT: JUSTICE, ALAN  
APPLICANT: SINGH, TEJINDER  
APPLICANT: GOHIL, KISHOR C  
APPLICANT: VALENTINO, KAREN L  
APPLICANT: MILJANICH, GEORGE P  
TITLE OF INVENTION: METHODS OF PRODUCING ANALGESIA AND  
TITLE OF INVENTION: ENHANCING OPIATE ANALGESIA  
NUMBER OF SEQUENCES: 34  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Law Offices of Peter Dehlinger  
STREET: 350 Cambridge Avenue, Suite 300  
CITY: Palo Alto  
STATE: CA  
COUNTRY: USA  
ZIP: 94306

## COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:



APPLICATION NUMBER: US/08/049,794  
FILING DATE: 19930415  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/814,759  
FILING DATE: 30-DEC-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Stratford, Carol A.  
REGISTRATION NUMBER: 34,444  
REFERENCE/DOCKET NUMBER: 5865-0009.30  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 324-0880  
TELEFAX: (415) 324-0960  
INFORMATION FOR SEQ ID NO: 12:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
INDIVIDUAL ISOLATE: SNX-194, FIGURE 2  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: 12  
OTHER INFORMATION: /note="where X is Nle"  
US-08-049-794-12

Query Match 80.4%; Score 123; DB 1; Length 25;  
Best Local Similarity 76.0%; Pred. No. 6e-07;  
Matches 19; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 CKGTGKPCSR1AYNCTGSCRSKC 25  
||| | ||| :|:|||||||  
Db 1 CKGAGACSR1XYDCCTGSCRSKC 25

## RESULT 5

US-08-496-847-12  
Sequence 12, Application US/08496847  
Patent No. 5795864  
GENERAL INFORMATION:  
APPLICANT: Amstutz, Gary A.  
APPLICANT: Bowersox, Stephen S.  
APPLICANT: Gohl, Kishorchandra  
APPLICANT: Adriaenssens, Peter I.  
APPLICANT: Kristipati, Ramasharma  
TITLE OF INVENTION: METHODS AND  
NUMBER OF SEQUENCES: 36  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Dehlinger & Associates  
STREET: 350 Cambridge Avenue, Suite 250  
CITY: Palo Alto  
STATE: CA  
COUNTRY: US  
ZIP: 94306-1546  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS  
SOFTWARE: FastSeq for Windows Version 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/496,847  
FILING DATE: 27-JUN-1995  
CLASSIFICATION: 514  
ATTORNEY/AGENT INFORMATION:  
NAME: Stratford, Carol A.  
REGISTRATION NUMBER: 34,444  
REFERENCE/DOCKET NUMBER: 5865-0009.31  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 650-324-0880  
TELEFAX: 650-324-0960

INFORMATION FOR SEQ ID NO: 12:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
INDIVIDUAL ISOLATE: SNX-194, FIGURE 2  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: 12  
OTHER INFORMATION: /note="where X is Nle"  
US-08-496-847-12

Query Match 80.4%; Score 123; DB 1; Length 25;  
Best Local Similarity 76.0%; Pred. No. 6e-07;  
Matches 19; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 CKGTGKPCSR1AYNCTGSCRSKC 25  
||| | ||| :|:|||||||  
Db 1 CKGAGACSR1XYDCCTGSCRSKC 25

## RESULT 6

US-08-742-774-12  
Sequence 12, Application US/08742774  
Patent No. 5824645  
GENERAL INFORMATION:  
APPLICANT: JUSTICE, ALAN  
APPLICANT: SINGH, TEJINDER  
APPLICANT: GOHIL, KISHOR C  
APPLICANT: VALENTINO, KAREN L  
APPLICANT: MILANICH, GEORGE P  
TITLE OF INVENTION: METHODS OF PRODUCING ANALGESIA AND  
NUMBER OF SEQUENCES: 34  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Law Offices of Peter Dehlinger  
STREET: 350 Cambridge Avenue, Suite 300  
CITY: Palo Alto  
STATE: CA  
COUNTRY: USA  
ZIP: 94306  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/742,774  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/675,354  
FILING DATE: 03-JUL-1996  
APPLICATION NUMBER: US/08/049,794  
FILING DATE: 1993-APR-15  
APPLICATION NUMBER: US 07/814,759  
FILING DATE: 30-DEC-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Stratford, Carol A.  
REGISTRATION NUMBER: 34,444  
REFERENCE/DOCKET NUMBER: 5865-0009.30  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 324-0880  
TELEFAX: (415) 324-0960  
INFORMATION FOR SEQ ID NO: 12:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein





COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/298,017  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/049,794  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Stratford, Carol A.  
REGISTRATION NUMBER: 34,444  
REFERENCE/DOCKET NUMBER: 5865-0009.30  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 324-0880  
TELEFAX: (415) 324-0960  
INFORMATION FOR SEQ ID NO: 12:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
INDIVIDUAL ISOLATE: SNX-194, FIGURE 2  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: 12  
OTHER INFORMATION: /note= "where x is Nle"  
US-09-298-017-12

Query Match 80.4%; Score 123; DB 3; Length 25;  
Best Local Similarity 76.0%; Pred. No. 6e-07;  
Matches 19; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 1 CKGTGKPCSRIRAYNCTGSCRSRSGKC 25  
||| | ||| : ||| ||| ||| ||| |||  
Db 1 CKGAGAKCSRLXYDCCTGSCRSRSGKC 25

RESULT 12  
US-09-392-979A-12  
Sequence 12, Application US/09392979A  
Patent No. 6136786  
GENERAL INFORMATION:  
APPLICANT: JUSTICE, ALAN  
APPLICANT: SINGH, TEJINDER  
APPLICANT: GOHIL, KISHOR C  
APPLICANT: VALENTINO, KAREN L  
APPLICANT: MILJANICH, GEORGE P  
TITLE OF INVENTION: METHODS OF PRODUCING ANALGESIA AND  
TITLE OF INVENTION: ENHANCING OPIATE ANALGESIA  
NUMBER OF SEQUENCES: 34  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Law Offices of Peter Dehlinger  
STREET: 350 Cambridge Avenue, Suite 300  
CITY: Palo Alto  
STATE: CA  
COUNTRY: USA  
ZIP: 94306  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/392,979A  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/08/049,794  
FILING DATE: 1993-04-15

APPLICATION NUMBER: US 07/814,759  
FILING DATE: 30-DEC-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Stratford, Carol A.  
REGISTRATION NUMBER: 34,444  
REFERENCE/DOCKET NUMBER: 5865-0009.30  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 324-0880  
TELEFAX: (415) 324-0960  
INFORMATION FOR SEQ ID NO: 12:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
INDIVIDUAL ISOLATE: SNX-194, FIGURE 2  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: 12  
OTHER INFORMATION: /note= "where x is Nle"  
US-09-392-979A-12

Query Match 80.4%; Score 123; DB 4; Length 25;  
Best Local Similarity 76.0%; Pred. No. 6e-07;  
Matches 19; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 1 CKGTGKPCSRIRAYNCTGSCRSRSGKC 25  
||| | ||| : ||| ||| ||| ||| |||  
Db 1 CKGAGAKCSRLXYDCCTGSCRSRSGKC 25

RESULT 13  
US-07-789-913-9  
Sequence 9, Application US/07789913  
Patent No. 5559095  
GENERAL INFORMATION:  
APPLICANT: Miljanich, George P.  
APPLICANT: Bowersox, Stephen S.  
APPLICANT: Fox, James A.  
APPLICANT: Valentino, Karen L.  
APPLICANT: Bitner, Robert S.  
APPLICANT: Yamashiro, Donald H.  
TITLE OF INVENTION: Delayed Treatment Method of Reducing  
TITLE OF INVENTION: Ischemia-Related Neuronal Damage  
NUMBER OF SEQUENCES: 28  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Law Offices of Peter Dehlinger  
STREET: 350 Cambridge Avenue, Suite 300  
CITY: Palo Alto  
STATE: CA  
COUNTRY: USA  
ZIP: 94306  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/789,913  
FILING DATE: 19911112  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/561,766  
FILING DATE: 02-AUG-1990  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/440,094  
FILING DATE: 22-NOV-1989  
ATTORNEY/AGENT INFORMATION:  
NAME: Stratford, Carol A.  
REGISTRATION NUMBER: 34,444  
REFERENCE/DOCKET NUMBER: 5865-0005.30

TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 324-0880  
TELEFAX: (415) 324-0960  
INFORMATION FOR SEQ ID NO: 9:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: both  
MOLECULE TYPE: peptide  
HYPOTHETICAL: NO  
ANTI-SENSE: NO  
ORIGINAL SOURCE:  
INDIVIDUAL ISOLATE: SNX-190  
US-07-789-913-9

Query Match 79.7%; Score 122; DB 1; Length 25;  
Best Local Similarity 76.0%; Pred. No. 7.7e-07;  
Matches 19; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 CKGTGKPCSR1AYNCCTGSCRSKC 25  
Db 1 CKGAGAKCSRLMYDCCCTGSCRSKC 25

RESULT 14  
US-07-789-913-12  
Sequence 12, Application US/07789913  
Patent No. 5559095  
GENERAL INFORMATION:  
APPLICANT: Miljanich, George P.  
APPLICANT: Bowersox, Stephen S.  
APPLICANT: Fox, James A.  
APPLICANT: Valentino, Karen L.  
APPLICANT: Bitner, Robert S.  
APPLICANT: Yamashiro, Donald H.  
TITLE OF INVENTION: Delayed Treatment Method of Reducing  
TITLE OF INVENTION: Ischemia-Related Neuronal Damage  
NUMBER OF SEQUENCES: 28  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Law Offices of Peter Dehlinger  
STREET: 350 Cambridge Avenue, Suite 300  
CITY: Palo Alto  
STATE: CA  
COUNTRY: USA  
ZIP: 94306  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/789,913  
FILING DATE: 19911112  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/561,766  
FILING DATE: 02-AUG-1990  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/440,094  
FILING DATE: 22-NOV-1989  
ATTORNEY/AGENT INFORMATION:  
NAME: Stratford, Carol A.  
REGISTRATION NUMBER: 34,444  
REFERENCE/DOCKET NUMBER: 5865-0005.30  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 324-0880  
TELEFAX: (415) 324-0960  
INFORMATION FOR SEQ ID NO: 12:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: both  
MOLECULE TYPE: peptide

HYPOTHETICAL: NO  
ANTI-SENSE: NO  
ORIGINAL SOURCE:  
INDIVIDUAL ISOLATE: SNX-194  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: 12.13  
OTHER INFORMATION: /note="where xaa is No. 5559095leucine"  
US-07-789-913-12

Query Match 79.7%; Score 122; DB 1; Length 25;  
Best Local Similarity 76.0%; Pred. No. 7.7e-07;  
Matches 19; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 CKGTGKPCSR1AYNCCTGSCRSKC 25  
Db 1 CKGAGAKCSRLMYDCCCTGSCRSKC 25

RESULT 15  
US-08-049-794-9  
Sequence 9, Application US/08049794  
Patent No. 5587454  
GENERAL INFORMATION:  
APPLICANT: JUSTICE, ALAN  
APPLICANT: SINGH, TEJINDER  
APPLICANT: GOHIL, KISHOR C  
APPLICANT: VALENTINO, KAREN L  
APPLICANT: MILJANICH, GEORGE P  
TITLE OF INVENTION: METHODS OF PRODUCING ANALGESIA AND  
TITLE OF INVENTION: ENHANCING OPIATE ANALGESIA  
NUMBER OF SEQUENCES: 34  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Law Offices of Peter Dehlinger  
STREET: 350 Cambridge Avenue, Suite 300  
CITY: Palo Alto  
STATE: CA  
COUNTRY: USA  
ZIP: 94306  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/049,794  
FILING DATE: 19930415  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/814,759  
FILING DATE: 30-DEC-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Stratford, Carol A.  
REGISTRATION NUMBER: 34,444  
REFERENCE/DOCKET NUMBER: 5865-0009.30  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 324-0880  
TELEFAX: (415) 324-0960  
INFORMATION FOR SEQ ID NO: 9:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 25 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
INDIVIDUAL ISOLATE: SNX-190, FIGURE 2  
US-08-049-794-9

Query Match 79.7%; Score 122; DB 1; Length 25;  
Best Local Similarity 76.0%; Pred. No. 7.7e-07;  
Matches 19; Conservative 2; Mismatches 4; Indels 0; Gaps 0;



Tue Jul 1 11:02:04 2003

us-09-910-082a-375.rai

Page 8

QY 1 CKGTGKPCSRRIAYNCCTGSCRSKC 25  
| | | | | : | : | | | | | | | | |  
Db 1 CKGAGAKCSRLMYDCCCTGSCRSKC 25

Search completed: July 1, 2003, 10:53:55  
Job time : 7.25 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: July 1, 2003, 10:41:52 ; Search time 25.7812 Seconds  
(without alignments)  
129.213 Million cell updates/sec

Title: US-09-910-082A-375  
Perfect score: 153  
Sequence: 1 CKGTGKPCSRIAVNCCTGSCRSKC 25

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	153	100.0	25	23	ABB96833
2	153	100.0	25	23	ABB96867
3	153	100.0	71	23	ABB96629
4	153	100.0	71	23	ABB96657
5	152	99.3	25	23	ABB96838
6	152	99.3	71	23	ABB96634
7	144	94.1	25	23	ABB96815
8	144	94.1	71	23	ABB96607
9	142	92.8	25	21	AAV87540
10	142	92.8	71	21	AAV87541

11	141	92.2	25	23	ABB96817	Omega-conopeptide
12	141	92.2	71	23	ABB96609	Omega-conopeptide
13	139	90.8	25	23	ABB96870	Omega-conopeptide
14	139	90.8	71	23	ABB96661	Omega-conopeptide
15	136	88.9	25	23	ABB96763	Omega-conopeptide
16	135	88.2	25	23	ABB96737	Omega-conopeptide
17	134	87.6	25	23	ABB96888	Omega-conopeptide
18	134	87.6	71	23	ABB96680	Omega-conopeptide
19	131	85.6	25	23	ABB96767	Omega-conopeptide
20	130	85.0	25	23	ABB96732	Omega-conopeptide
21	127	83.0	25	23	ABB96710	Omega-conopeptide
22	126	82.4	25	18	AAW19568	SNX-273, omega con
23	126	82.4	25	22	AAV97041	Omega-conch toxin
24	126	82.4	25	23	ABB96787	Omega-conopeptide
25	124	81.0	25	23	ABB96712	Omega-conopeptide
26	123	80.4	25	18	AAW12978	Omega conopeptide
27	123	80.4	25	19	AAW72618	Conus genus analog
28	123	80.4	25	20	AAW95577	Analog omega-conop
29	123	80.4	25	21	AAW14363	Omega-conopeptide
30	123	80.4	25	22	AAW19455	Sequence of an ome
31	122	79.7	25	12	AAW12544	Omega conotoxin pe
32	122	79.7	25	14	AAW37763	SNX-190. Syntheti
33	122	79.7	25	14	AAW37766	SNX-194. Syntheti
34	122	79.7	25	14	AAW39618	SNX-190. Syntheti
35	122	79.7	25	14	AAW39621	SNX-194. Syntheti
36	122	79.7	25	18	AAW19555	SNX-190, omega con
37	122	79.7	25	18	AAW19558	SNX-194, omega con
38	122	79.7	25	18	AAW12975	Omega conopeptide
39	122	79.7	25	18	AAW12983	Omega conopeptide
40	122	79.7	25	19	AAW72615	Conus genus analog
41	122	79.7	25	19	AAW72623	Conus genus analog
42	122	79.7	25	20	AAW95582	Analog omega-conop
43	122	79.7	25	20	AAW95574	Analog omega-conop
44	122	79.7	25	21	AAW14360	Omega-conopeptide
45	122	79.7	25	21	AAW14368	Omega-conopeptide

ALIGNMENTS

RESULT 1  
ABB96833  
ID ABB96833 standard; Peptide: 25 AA.  
XX  
AC ABB96833;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Cn6.2 toxin sequence.

KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antinflammatory;  
KW antimigraine; antidiabetic; tranquilliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.

OS Conus consors.  
XX  
PN WO200207675-A2.  
XX  
PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.  
XX  
PR 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX  
PA (UTAH ) UNTV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.

XX Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX WPI; 2002-257318/30.  
DR  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(a); Page 71; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antidiabetic, antidiabetic,  
CC tranquiliser, vulnery, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.  
XX  
SQ Sequence 25 AA;  
XX  
Query Match 100.0%; Score 153; DB 23; Length 25;  
Best Local Similarity 100.0%; Pred. No. 1.6e-10;  
Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 CKGTGKPCSRIVNCTGSCRSKC 25  
DB 1 CKGTGKPCSRIVNCTGSCRSKC 25  
RESULT 2  
ABB96867  
ID ABB96867 standard; Peptide; 25 AA.  
XX  
AC ABB96867;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide M6.1 toxin sequence.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antidiabetic; tranquiliser; vulnery; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus magus.  
XX  
PN WO200207675-A2.  
XX  
PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.  
XX  
PR 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX

PA (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX  
XX WPI; 2002-257318/30.  
DR  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(a); Page 72; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antidiabetic, antidiabetic,  
CC tranquiliser, vulnery, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.  
XX  
SQ Sequence 25 AA;  
XX  
Query Match 100.0%; Score 153; DB 23; Length 25;  
Best Local Similarity 100.0%; Pred. No. 1.6e-10;  
Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 CKGTGKPCSRIVNCTGSCRSKC 25  
DB 1 CKGTGKPCSRIVNCTGSCRSKC 25  
RESULT 3  
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ID ABB96629 standard; Peptide; 71 AA.  
XX  
AC ABB96629;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Cn6.2 propeptide.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antidiabetic; tranquiliser; vulnery; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus consors.  
XX  
PN WO200207675-A2.  
XX  
PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.  
XX  
PR 21-JUL-2000; 2000US-219616P.  
XX

PR 05-FEB-2001; 2001US-265888P.  
XX  
XX (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartler GE;  
XX  
DR WPI; 2002-257318/30.  
DR N-PSDB; ABL98888.  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(c); Page 38; 195pp; English.  
XX  
XX The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
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SQ Sequence 71 AA;  
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Query Match 100.0%; Score 153; DB 23; Length 71;  
Best Local Similarity 100.0%; Pred. No. 3.7e-10;  
Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 CKGTGKPCSR IAYNCTGSCRS GKC 25  
Db 46 CKGTGKPCSR IAYNCTGSCRS GKC 70  
RESULT 4  
ABB96657  
ID ABB96657 standard; Peptide; 71 AA.  
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AC ABB96657;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide M6.1 propeptide.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus magus.  
XX WO200207675-A2.  
PN  
XX 31-JAN-2002.  
PD

XX 23-JUL-2001; 2001WO-US23041.  
PF  
XX  
XX 21-JUL-2000; 2000US-219616P.  
PR  
PR 05-FEB-2001; 2001US-265888P.  
XX  
XX (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartler GE;  
XX  
DR WPI; 2002-257318/30.  
DR N-PSDB; ABL98916.  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(c); Page 52; 195pp; English.  
XX  
XX The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
SQ Sequence 71 AA;  
XX  
Query Match 100.0%; Score 153; DB 23; Length 71;  
Best Local Similarity 100.0%; Pred. No. 3.7e-10;  
Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 CKGTGKPCSR IAYNCTGSCRS GKC 25  
Db 46 CKGTGKPCSR IAYNCTGSCRS GKC 70  
RESULT 5  
ABB96838  
ID ABB96838 standard; Peptide; 25 AA.  
XX  
AC ABB96838;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Cn6.7 toxin sequence.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus consors.  
XX

XX WO200207675-A2.  
XX 31-JAN-2002.  
XX 23-JUL-2001; 2001WO-US23041.  
XX 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX WPI; 2002-257318/30.  
DR  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
XX Claim 1(a); Page 71; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.  
XX  
XX Sequence 25 AA;  
SQ  
Query Match 99.3%; Score 152; DB 23; Length 25;  
Best Local Similarity 96.0%; Pred. No. 2e-10;  
Matches 24; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
OY 1 CKGTGKPCSRIVAYNCCTGSCRSKC 25  
DB 1 CKGTGKPCSRIVAYNCCTGSCRSKC 25  
RESULT 6  
ABB96634  
ID ABB96634 standard; Peptide: 71 AA.  
XX  
AC ABB96634;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Cn6.7 propeptide.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.

XX Conus consors.  
XX WO200207675-A2.  
XX 31-JAN-2002.  
XX 23-JUL-2001; 2001WO-US23041.  
XX 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX WPI; 2002-257318/30.  
DR  
DR N-PSDB; ABL98893.  
XX  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
XX Claim 1(c); Page 40; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
XX Sequence 71 AA;  
SQ  
Query Match 99.3%; Score 152; DB 23; Length 71;  
Best Local Similarity 96.0%; Pred. No. 4.8e-10;  
Matches 24; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
OY 1 CKGTGKPCSRIVAYNCCTGSCRSKC 25  
DB 46 CKGTGKPCSRIVAYNCCTGSCRSKC 70  
RESULT 7  
ABB96815  
ID ABB96815 standard; Peptide: 25 AA.  
XX  
AC ABB96815;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Ay6.1 toxin sequence.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;



KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus auristiacus.  
XX  
PN WO200207675-A2.  
XX  
PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.  
XX  
PR 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX  
PA (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX  
DR WPI; 2002-257318/30.  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(a); Page 71; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.  
XX  
SQ Sequence 25 AA;  
OY  
Query Match 94.1%; Score 144; DB 23; Length 25;  
Best Local Similarity 92.0%; Pred. No. 1.6e-09;  
Matches 23; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
Db 1 CKGTGKPCSRIVNCTGSCRSKC 25  
1 CKGKGRPCSRISYNCTGSCRSKC 25  
RESULT 8  
ID ABB96607 standard; peptide; 71 AA.  
XX  
AC ABB96607;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Ay6.1 propeptide.  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;

KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus auristiacus.  
XX  
PN WO200207675-A2.  
XX  
PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.  
XX  
PR 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX  
PA (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX  
DR WPI; 2002-257318/30.  
DR N-PSDB; ABL98867.  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(c); Page 28; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
SQ Sequence 71 AA;  
OY  
Query Match 94.1%; Score 144; DB 23; Length 71;  
Best Local Similarity 92.0%; Pred. No. 3.7e-09;  
Matches 23; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
Db 1 CKGTGKPCSRIVNCTGSCRSKC 25  
46 CKGKGRPCSRISYNCTGSCRSKC 70  
RESULT 9  
ID AAY87540 standard; peptide; 25 AA.  
XX  
AC AAY87540;  
XX  
DT 18-JUL-2000 (first entry)  
XX  
DE Mature conotoxin peptide #11.

XX Mature conotoxin; brocade cone shell; line cone shell; drug screening;  
KW neuronal inhibitor; muscle inhibitor; analgesic.  
XX  
OS Conus sp.  
XX CN1237584-A.  
PN  
PD 08-DEC-1999.  
XX  
XX 30-APR-1999; 99CN-0106070.  
PF  
XX 30-APR-1999; 99CN-0106070.  
PR  
XX 30-APR-1999; 99CN-0106070.  
XX  
PA (BIOL-) BIOLOGICAL ENG INST ACAD MILITARY MEDICI.  
PI Lu B, Huang P;  
XX  
XX WPI; 2000-351193/31.  
DR  
XX Conotoxin peptide from brocade cone shells useful as analgesic -  
PT  
XX Claim 1A; Page 5; 20pp; Chinese.  
PS  
XX The invention relates to 14 novel mature conotoxin peptides from marine  
CC snails (Conus species); conotoxin precursor proteins; and cDNAs  
CC encoding the conotoxin precursors. The mature peptide sequences were  
CC discovered by obtaining conotoxin cDNA sequences from mRNA from the  
CC brocade cone shell (Conus textile) or the line cone shell (Conus  
CC striatus). The cDNA sequences were used to determine the conotoxin  
CC precursor protein sequences, and the sequences of the mature conotoxin  
CC peptides were inferred from the precursor sequences. The mature  
CC conotoxin peptides can be obtained via chemical synthesis or by in vitro  
CC gene expression. Conotoxins inhibit the function of neurons and muscle  
CC cells. Certain conotoxins interfere with synaptic transmission, while  
CC others act on muscle or at the neuromuscular junction. The 14 novel  
CC conotoxins have unique receptor specificity and affinity, so can be  
CC used as screening tools to identify new drugs. Conotoxin #11 (AAV87540)  
CC may be used for pain relief. Sequences AAV87420, AAV87522, AAV87524,  
CC AAV87526, AAV87528, AAV87530, AAV87532, AAV87534, AAV87536, AAV87538,  
CC AAV87540, AAV87542, AAV87544 and AAV87546 represent mature conotoxins  
CC #1-#14, respectively.  
CC  
SQ Sequence 25 AA;  
QY Query Match 92.8%; Score 142; DB 21; Length 25;  
Best Local Similarity 92.0%; Pred. No. 2.6e-09;  
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
Db 1 CKGTGKPCSRRIAYNCTGSCRSKGC 25  
1 CKAAGKPCSRRIAYNCTGSCRSKGC 25  
RESULT 10  
AAV87541  
ID AAV87541 standard; protein; 71 AA.  
XX  
XX AAV87541;  
AC  
XX 18-JUL-2000 (first entry)  
DT  
XX Conotoxin peptide #11 precursor.  
DE  
XX Conotoxin precursor; brocade cone shell; line cone shell; drug screening;  
KW neuronal inhibitor; muscle inhibitor; analgesic.  
KW  
XX Conus sp.  
OS  
XX  
XX Key Location/Qualifiers  
FH Misc-difference 6 /note= "Encoded by ATG"  
FT  
XX

PN CN1237584-A.  
XX  
XX 08-DEC-1999.  
PD  
XX  
XX 30-APR-1999; 99CN-0106070.  
PF  
XX 30-APR-1999; 99CN-0106070.  
PR  
XX 30-APR-1999; 99CN-0106070.  
XX  
XX (BIOL-) BIOLOGICAL ENG INST ACAD MILITARY MEDICI.  
PA  
PI Lu B, Huang P;  
XX  
XX WPI; 2000-351193/31.  
DR N-PSDB; AAA10463.  
XX  
XX Conotoxin peptide from brocade cone shells useful as analgesic -  
PT  
XX Claim 1A; Page 5-6; 20pp; Chinese.  
PS  
XX The invention relates to 14 novel mature conotoxin peptides from marine  
CC snails (Conus species); conotoxin precursor proteins; and cDNAs  
CC encoding the conotoxin precursors. The mature peptide sequences were  
CC discovered by obtaining conotoxin cDNA sequences from mRNA from the  
CC brocade cone shell (Conus textile) or the line cone shell (Conus  
CC striatus). The cDNA sequences were used to determine the conotoxin  
CC precursor protein sequences, and the sequences of the mature conotoxin  
CC peptides were inferred from the precursor sequences. The mature  
CC conotoxin peptides can be obtained via chemical synthesis or by in vitro  
CC gene expression. Conotoxins inhibit the function of neurons and muscle  
CC cells. Certain conotoxins interfere with synaptic transmission, while  
CC others act on muscle or at the neuromuscular junction. The 14 novel  
CC conotoxins have unique receptor specificity and affinity, so can be  
CC used as screening tools to identify new drugs. Conotoxin #11 (AAV87540)  
CC may be used for pain relief. Sequences AAV87421, AAV87523, AAV87525,  
CC AAV87527, AAV87529, AAV87531, AAV87533, AAV87535, AAV87537, AAV87539,  
CC AAV87541, AAV87543, AAV87545 and AAV87547 represent the precursors of  
CC conotoxins #1-#14, respectively.  
CC  
SQ Sequence 71 AA;  
QY Query Match 92.8%; Score 142; DB 21; Length 71;  
Best Local Similarity 92.0%; Pred. No. 6.2e-09;  
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
Db 1 CKGTGKPCSRRIAYNCTGSCRSKGC 25  
46 CKAAGKPCSRRIAYNCTGSCRSKGC 70  
RESULT 11  
ABB96817  
ID ABB96817 standard; Peptide; 25 AA.  
XX  
XX ABB96817;  
AC  
XX 12-JUL-2002 (first entry)  
DT  
XX Omega-conopeptide AAV6.3 toxin sequence.  
DE  
XX  
XX Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
KW  
XX Conus aurisiacus.  
OS  
XX  
XX WO200207675-A2.  
PN  
XX

PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.  
XX  
PR 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX  
PA (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX  
DR WPI; 2002-257318/30.  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(a); Page 71; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC sufocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.  
XX  
SQ Sequence 25 AA:  
  
Query Match 92.2%; Score 141; DB 23; Length 25;  
Best Local Similarity 92.0%; Pred. No. 3.4e-09;  
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
  
QY 1 CKGTGKPCSRRIAYNCCTGSCRSKC 25  
DB 1 CKAKGKPCSRRIAYNCCTGSCRSKC 25  
  
RESULT 12  
ABB96609  
ID ABB96609 standard; Peptide; 71 AA.  
XX  
AC ABB96609;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Ay6.3 propeptide.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; sufocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW psychosis; anxiety; schizophrenia.  
XX  
OS Conus aurisiacus.  
XX

PN W0200207675-A2.  
XX  
PD 31-JAN-2002.  
XX  
PF 23-JUL-2001; 2001WO-US23041.  
XX  
PR 21-JUL-2000; 2000US-219616P.  
PR 05-FEB-2001; 2001US-265888P.  
XX  
PA (UTAH ) UNIV UTAH RES FOUND.  
PA (COGN-) COGNETIX INC.  
XX  
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;  
PI Jacobsen R, Jones RM, Cartier GE;  
XX  
DR WPI; 2002-257318/30.  
DR N-PSDB; ABL98869.  
XX  
PT New omega-conopeptides useful for treating disorders associated with  
PT voltage gated ion channels e.g. pain, inflammation, neurological or  
PT cardiovascular disorders -  
XX  
PS Claim 1(c); Page 29; 195pp; English.  
XX  
CC The invention relates to isolated omega-conopeptides, nucleic acid  
CC sequences encoding them, and propeptide sequences. The activity of  
CC the peptides of the invention may be described as, analgesic,  
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,  
CC cardiovascular, antinflammatory, antimigraine, antidiabetic,  
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.  
CC Peptides of the invention act by modulating the activity of voltage gated  
CC ion channels. They may be used for treating or preventing disorders  
CC associated with voltage gated ion channels such as neurological  
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury  
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,  
CC cerebrovascular accident, brain or spinal chord trauma, drowning,  
CC sufocation, perinatal asphyxia or hypoglycaemic events; pain e.g.  
CC migraine; inflammation or cardiovascular disorders. They may also be used  
CC for treating psychiatric disorders e.g. psychosis, anxiety or  
CC schizophrenia. The analgesic agents of the invention show diminished side  
CC effects and toxicity, and are non-addictive. The sequences given in  
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide  
CC sequences.  
XX  
SQ Sequence 71 AA:  
  
Query Match 92.2%; Score 141; DB 23; Length 71;  
Best Local Similarity 92.0%; Pred. No. 8.1e-09;  
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
  
QY 1 CKGTGKPCSRRIAYNCCTGSCRSKC 25  
DB 46 CKAKGKPCSRRIAYNCCTGSCRSKC 70  
  
RESULT 13  
ABB96870  
ID ABB96870 standard; Peptide; 25 AA.  
XX  
AC ABB96870;  
XX  
DT 12-JUL-2002 (first entry)  
XX  
DE Omega-conopeptide Mn6.1 toxin sequence.  
XX  
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;  
KW neuroprotective; cerebroprotective; cardiovascular; antinflammatory;  
KW antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;  
KW anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;  
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;  
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;  
KW drowning; sufocation; perinatal asphyxia; hypoglycaemic event; pain;  
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;  
KW

```
KW psychosis; anxiety; schizophrenia.
XX
OS Conus monachus.
XX
PN WO200207675-A2.
XX
PD 31-JAN-2002.
XX
PF 23-JUL-2001; 2001WO-US23041.
XX
PR 21-JUL-2000; 2000US-219616P.
PR 05-FEB-2001; 2001US-265888P.
XX
PA (UTAH ) UNIV UTAH RES FOUND.
PA (COGN-) COGNETIX INC.
XX
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;
PI Jacobsen R, Jones RM, Cartier GE;
XX
DR WPI; 2002-257318/30.
XX
PT New omega-conopeptides useful for treating disorders associated with
PT voltage gated ion channels e.g. pain, inflammation, neurological or
PT cardiovascular disorders -
XX
PS Claim 1(a); Page 72; 195pp; English.
XX
CC The invention relates to isolated omega-conopeptides, nucleic acid
CC sequences encoding them, and propeptide sequences. The activity of
CC the peptides of the invention may be described as, analgesic,
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.
CC Peptides of the invention act by modulating the activity of voltage gated
CC ion channels. They may be used for treating or preventing disorders
CC associated with voltage gated ion channels such as neurological
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,
CC cerebrovascular accident, brain or spinal chord trauma, drowning,
CC migraine; inflammation or cardiovascular disorders. They may also be used
CC for treating psychiatric disorders e.g. psychosis, anxiety or
CC schizophrenia. The analgesic agents of the invention show diminished side
CC effects and toxicity, and are non-addictive. The sequences given in
CC records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.
XX
SQ Sequence 25 AA;
Query Match 90.8%; Score 139; DB 23; Length 25;
Best Local Similarity 92.0%; Pred. No. 5.7e-09;
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
OY 1 CKGTGKPCSRIVNCTGSCRSKC 25
Db 1 CKSTGKSCSRIVNCTGSCRSKC 25
RESULT 14
ABB96661
ID ABB96661 standard; Peptide; 71 AA.
XX
AC ABB96661;
XX
DT 12-JUL-2002 (first entry)
XX
DE Omega-conopeptide Mn6.1 propeptide.
XX
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;
KW antimigraine; antidiabetic; tranquiliser; vulnerary; seizure; epileptic;
KW anxiolytic; neuroleptic; voltage gated ion channel; pain; epilepsy;
KW neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;
KW stroke; cerebrovascular accident; brain trauma; spinal chord trauma;
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KW drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain;
KW migraine; inflammation; cardiovascular disorder; psychiatric disorder;
KW psychosis; anxiety; schizophrenia.
XX
OS Conus monachus.
XX
PN WO200207675-A2.
XX
PD 31-JAN-2002.
XX
PF 23-JUL-2001; 2001WO-US23041.
XX
PR 21-JUL-2000; 2000US-219616P.
PR 05-FEB-2001; 2001US-265888P.
XX
PA (UTAH ) UNIV UTAH RES FOUND.
PA (COGN-) COGNETIX INC.
XX
PI Olivera BM, McIntosh JM, Watkins M, Garrett JE, Shon K;
PI Jacobsen R, Jones RM, Cartier GE;
XX
DR WPI; 2002-257318/30.
DR N-PSDB; ABL98920.
XX
PT New omega-conopeptides useful for treating disorders associated with
PT voltage gated ion channels e.g. pain, inflammation, neurological or
PT cardiovascular disorders -
XX
PS Claim 1(c); Page 53; 195pp; English.
XX
CC The invention relates to isolated omega-conopeptides, nucleic acid
CC sequences encoding them, and propeptide sequences. The activity of
CC the peptides of the invention may be described as, analgesic,
CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective,
CC cardiovascular, antiinflammatory, antimigraine, antidiabetic,
CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.
CC Peptides of the invention act by modulating the activity of voltage gated
CC ion channels. They may be used for treating or preventing disorders
CC associated with voltage gated ion channels such as neurological
CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury
CC associated with conditions of hypoxia, anoxia, ischaemia, stroke,
CC cerebrovascular accident, brain or spinal chord trauma, drowning,
CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.
CC migraine; inflammation or cardiovascular disorders. They may also be used
CC for treating psychiatric disorders e.g. psychosis, anxiety or
CC schizophrenia. The analgesic agents of the invention show diminished side
CC effects and toxicity, and are non-addictive. The sequences given in
CC records ABB96595-ABB96697 represent omega-conopeptide propeptide
CC sequences.
XX
SQ Sequence 71 AA;
Query Match 90.8%; Score 139; DB 23; Length 71;
Best Local Similarity 92.0%; Pred. No. 1.3e-08;
Matches 23; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
OY 1 CKGTGKPCSRIVNCTGSCRSKC 25
Db 46 CKSTGKSCSRIVNCTGSCRSKC 70
RESULT 15
ABB96763
ID ABB96763 standard; Peptide; 25 AA.
XX
AC ABB96763;
XX
DT 12-JUL-2002 (first entry)
XX
DE Omega-conopeptide M6.1 generic toxin sequence.
XX
KW Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;
KW neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;
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